UNITED NATIONS **E**

Economic and Social Council

Distr.
GENERAL

TRANS/WP.15/178
29 March 2004

ENGLISH
Original: ENGLISH AND FRENCH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

Draft amendments to annexes A and B of ADR

Note by the secretariat

This document contains the consolidated list of amendments to annexes A and B of ADR adopted by the Working Party at its seventy-second, seventy-third, seventy-fourth and seventy-fifth sessions (2002, 2003 and 2004) for submission for acceptance to Contracting Parties to ADR and for entry into force on 1 January 2005 (See TRANS/WP.15/176, par. 83 and 84).

The acronyms "TI" and "CSI" used in the English version should not be translated and should appear unchanged in all linguistic versions. *(Apply to: 2.2.7.2 (definition of "Criticality Safety Index (CSI)" and "Transport Index (TI)"); 2.2.7.6; 2.2.7.6.1; 2.2.7.6.1.1, 2.2.7.6.1.2; 2.2.7.6.2; 2.2.7.6.2.1; 2.2.7.6.2.2; 2.2.7.8; 2.2.7.8.1; 2.2.7.8.4 a); 2.2.7.8.4 b); table 2.2.7.8.4 (heading and note after the table); 5.2.2.1.11.2 d); 5.2.2.1.11.3; 5.2.2.1.11.4; 6.4.23.12 k) ii); 6.4.23.14 m) ii) and 7.5.11 CV33 (3.3)).*

In the definitions of 2.2.7.2, the acronyms should appear after the corresponding term in alphabetical order, with asterisks and associated footnotes as follows: "Transport Index (TI)[*]" and "Criticality Safety Index (CSI)[**] ".

PART 1

Chapter 1.1

1.1.2.2 Add a new indent to read as follows: "- Chapter 1.10".

1.1.3.1 (c) Insert "or returns from" after "such as deliveries to".

1.1.3.2 (f) Amend to read as follows:
"uncleaned empty static pressure tanks which are carried, on condition that all openings with the exception of pressure relief devices (when fitted) are hermetically closed; and"

1.1.3.6.2 In the fifth indent, insert "8.3.3," before "8.3.4," and "8.3.5," after "8.3.4,".
Add a new indent to read as follows: "- Chapter 1.10;".

1.1.3.6.3 Amend as follows:

Transport category		Amendment
Transport category 0	Class 4.3	Replace ", 3148, 3207 and 3372" with ", 3148, 3396, 3398 and 3399".
	Class 6.2	Delete "(risk groups 3 and 4)"
	Class 9	Add "and 3432" after "3152"
	In the last sentence of column (2), after Class 9, insert ", except those classified under UN No. 2908," before "having".	
Transport category 2	Class 6.2	Delete this entry.

1.1.4.2.2 Add the following phrase at the end: "… except that, when additional information is required by ADR, it shall be added or entered at the appropriate place.".

Amend the NOTE to read as follows:
"***NOTE:*** *For carriage in accordance with 1.1.4.2.1, see also 5.4.1.1.7. For carriage in containers, see also 5.4.2.".*

Consequential amendment: In 5.4.1.1.7, replace "1.1.4.2" with "1.1.4.2.1" (twice).

1.1.4.3 Delete the NOTE. *(Consequential amendment to 5.4.1.1.8)*.

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[*] *The acronym "TI" stands for the English term "Transport Index".*
[**] *The acronym "CSI" stands for the English term "Criticality safety index".*

Chapter 1.2

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

- is not equipped with safety valves, bursting discs, other similar safety devices or vacuum valves, or

- is not equipped with safety valves, bursting discs or other similar safety devices, but is equipped with vacuum valves, as allowed by special provision TE15 of 6.8.4; or

- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10, but is not equipped with vacuum valves; or

- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 and vacuum valves, as allowed by special provision TE15 of 6.8.4.".

In the definition of "*Manual of Tests and Criteria*", replace "third" with "fourth" and "Rev.3" with "Rev.4" and delete "as amended by document ST/SG/AC.10/11/Rev.3/Amend.1".

In the definition of *"Maximum working pressure (gauge pressure)"*, insert the following phrase before ", the maximum working pressure" in the last paragraph: "other than tanks for the carriage of compressed, liquefied or dissolved gases of Class 2".

Place the text between brackets ("See also "*Calculation pressure*" … "*Test pressure*") in a new line.

Current NOTE to the definition of *"Maximum working pressure (gauge pressure)"* becomes ***NOTE 1***. Insert a new ***NOTE 2*** to read as follows: *"**NOTE 2**: For closed cryogenic receptacles, see NOTE to 6.2.1.3.3.5."*.

In the definition of "*portable tank*", replace the words "having a capacity of more than 450 litres" with "having, when used for the carriage of Class 2 substances, a capacity of more than 450 litres".

In the definition of "*tank-container"*, insert, at the end, before "having a capacity" the words ", when used for the carriage of Class 2 substances".

In the definition of "*UN Model Regulations*", replace "twelfth" with "thirteenth" and "ST/SG/AC.10/1/Rev.12" with " ST/SG/AC.10/1/Rev.13".

Insert a new definition for "*Routine maintenance of flexible IBCs*" under "*Intermediate Bulk Container (IBC)"*, after "*Repaired IBCs*" as follows:
"*Routine maintenance of flexible IBCs* means the routine performance on plastics or textile flexible IBCs of operations, such as:

(a) Cleaning; or

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

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

In the definition of "*Repaired IBC*", insert the word "rigid" before "IBCs" in the last but one sentence and add the following sentence at the end of the existing text: "Flexible IBCs are not repairable unless approved by the competent authority.".

Replace "*Routine maintenance of IBCs*" with "*Routine maintenance of rigid IBCs*".

Under "R", for "*Routine maintenance of IBC*", replace "*of IBC*" with "*of flexible IBCs*" and insert the following new reference in alphabetical order: ""*Routine maintenance of rigid IBCs"*, see "*Intermediate Bulk Container (IBC)*";".

Insert the following new definitions in alphabetical order:

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

Bulk containers are:

- of a permanent character and accordingly strong enough to be suitable for repeated use;

- specially designed to facilitate the carriage of goods by one or more modes of carriage without intermediate reloading;

- fitted with devices permitting its ready handling;

- of a capacity of not less than 1.0 m^3.

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

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

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

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

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

"Offshore bulk container" means a bulk container specially designed for repeated use for carriage to, from and between offshore facilities. An offshore bulk container is designed

and constructed in accordance with the guidelines for the approval of offshore containers handled in open seas specified by the International Maritime Organization (IMO) in document MSC/Circ.860;".

Chapter 1.3

1.3.1 Add the following sentence at the end: "Training requirements specific to security of dangerous goods in Chapter 1.10 shall also be addressed.".

Chapter 1.4

1.4.2 Add a note under the title to read as follows:
*"**NOTE:** For radioactive materials see also 1.7.6.".*

Chapter 1.6

1.6.1.1 Replace "2003" with "2005" and "2002" with "2004".

1.6.1.2 Replace "1998" with "2004".

1.6.1.6 to 1.6.1.10 Add the following new paragraphs:

"1.6.1.6 Intermediate bulk containers (IBCs) manufactured before 1 January 2003 in accordance with the requirements of marginal 3612 (1) applicable up to 30 June 2001 and which do not conform to the requirements of 6.5.2.1.1 regarding the height of letters, numerals and symbols applicable as from 1 July 2001 may continue to be used.

1.6.1.7 Type approvals for drums, jerricans and composite packagings made of high or medium molecular mass polyethylene issued before 1 July 2005 in accordance with the requirements of 6.1.5.2.6 in force up to 31 December 2004, but which are not in accordance with the requirements of 4.1.1.19, continue to be valid until 31 December 2009. Any such packagings manufactured and marked on the basis of these type approvals may be used until the end of their period of use determined in 4.1.1.15.

1.6.1.8 Existing orange-coloured plates which meet the requirements of sub-section 5.3.2.2 applicable up to 31 December 2004 may continue to be used.

1.6.1.9 The requirements of 8.2.1 are applicable to drivers of vehicles with a permissible maximum mass not exceeding 3.5 tonnes as from 1 January 2007. This transitional provision does not apply to drivers referred to in 8.2.1.3 and 8.2.1.4.

1.6.1.10 Lithium cells and batteries manufactured before 1 July 2003 which had been tested in accordance with the requirements applicable until 31 December 2002 but which had not been tested in accordance with the requirements applicable as from 1 January 2003, and appliances containing such lithium cells or batteries, may continue to be carried up to 30 June 2013 if all the other applicable requirements are fulfilled.".

1.6.3.10, 1.6.3.12, 1.6.3.15 and
1.6.3.16 Amend to read as follows: "*(Reserved)*".

1.6.3.21 Current 1.6.3.21 becomes new 1.6.3.40.

1.6.3.21 to 1.6.3.39 Add the following new paragraphs:

"1.6.3.21 Fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 2003 in accordance with the requirements applicable up to 30 June 2001, which conform to the requirements of 6.8.2.2.10 but are not equipped with a pressure gauge or another suitable indicator, shall nevertheless be considered as being hermetically closed until the next periodic inspection according to 6.8.2.4.2 but not later than 31 December 2008.

1.6.3.22 to 1.6.3.24 *(Reserved).*

1.6.3.25 The date of the leakproofness test required by 6.8.2.4.3 need not be added to the tank plate required by 6.8.2.5.1 until the first leakproofness test after 1 January 2005 is performed.

1.6.3.26 to 1.6.3.29 *(Reserved).*

1.6.3.30 Vacuum-operated waste fixed tanks (tank-vehicles) and demountable tanks constructed before 1 January 2005, which conform to the requirements of 6.10.3.9 applicable up to 31 December 2004 but which do not conform to the requirements of 6.10.3.9 applicable as from 1 January 2005, may continue to be used.

1.6.3.31 to 1.6.3.39 *(Reserved)."*

1.6.4.6 and 1.6.4.9 Amend to read as follows: *"(Reserved)".*

1.6.4.10 Replace "may still be used" with "may continue to be used".

1.6.4.12 Add a new sentence at the end of the existing paragraph to read as follows:
"The marking of the alphanumerical codes of special provisions TC, TE and TA in accordance with 6.8.4 shall be carried out when the tank codes are assigned or at one of the tests in accordance with 6.8.2.4 subsequent to the assignment, but by 31 December 2008 at the latest.".

1.6.4.14 to 1.6.4.20 Add the following new paragraphs:

"1.6.4.14 *(Reserved).*

1.6.4.15 The date of the leakproofness test required by 6.8.2.4.3 need not be added to the tank plate required by 6.8.2.5.1 until the first leakproofness test after 1 January 2005 is performed.

1.6.4.16 Tank-containers constructed before 1 January 2003 in accordance with the requirements applicable up to 30 June 2001, which conform to the requirements of 6.8.2.2.10 but are not equipped with a pressure gauge or another suitable indicator, shall nevertheless be considered as being hermetically closed until the next periodic inspection according to 6.8.2.4.2 but not later than 31 December 2007.

1.6.4.17 to 1.6.4.19 *(Reserved)*

1.6.4.20 Vacuum-operated waste tank-containers constructed before 1 January 2005, which conform to the requirements of 6.10.3.9 applicable up to 31 December 2004 but which do not conform to the requirements of 6.10.3.9 applicable as from 1 January 2005, may continue to be used.".

1.6.5.1 and 1.6.5.2 Amend to read as follows: "*(Reserved)*".

1.6.5.4 Replace "base" with "EX/II, EX/III, FL, OX and AT", "2002" with "2004" and "30 June 2004" with "31 December 2005".

1.6.5.8 Add the following new paragraph:

"1.6.5.8 EX/II and EX/III vehicles which have been first approved before 1 July 2005 and which comply with the requirements of Part 9 in force up to 31 December 2004 but which do not however conform to the requirements applicable as from 1 January 2005 may continue to be used until 31 December 2014.".

1.7.6 Add a new section to read as follows:

"**1.7.6 Non-compliance**

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

(a) The consignor shall be informed of the non-compliance

(i) by the carrier if the non-compliance is identified during carriage; or

(ii) by the consignee if the non-compliance is identified at receipt;

(b) The carrier, consignor or consignee, as appropriate shall:

(i) take immediate steps to mitigate the consequences of the non-compliance;

(ii) investigate the non-compliance and its causes, circumstances and consequences;

(iii) take appropriate action to remedy the causes and circumstances that led to the non-compliance and to prevent a recurrence of similar circumstances that led to the non-compliance; and

(iv) communicate to the competent authority(ies) on the causes of the non-compliance and on corrective or preventive actions taken or to be taken; and

(c) The communication of the non-compliance to the consignor and competent authority(ies), respectively, shall be made as soon as practicable and it shall be immediate whenever an emergency exposure situation has developed or is developing.".

Chapter 1.8

1.8.1.1 Amend the end of the first sentence to read as follows: "...the carriage of dangerous goods including the requirements of 1.10.1.5 have been met.".

1.8.3.3 Add a new indent, at the end (immediately before paragraph 1.8.3.4), to read as follows:

"- the existence of the security plan indicated in 1.10.3.2.".

1.8.3.16 Amend to read as follows:
"1.8.3.16 *Validity and renewal of certificates*

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

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

Chapter 1.10

Insert a new Chapter 1.10 to read as follows, and amend the table of contents accordingly:

"CHAPTER 1.10

SECURITY PROVISIONS

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

1.10.1 General provisions

1.10.1.1 All persons engaged in the carriage of dangerous goods shall consider the security requirements for the carriage of dangerous goods set out in this Chapter commensurate with their responsibilities.

1.10.1.2 Dangerous goods shall only be offered for carriage to carriers that have been appropriately identified.

1.10.1.3 Areas within temporary storage terminals, temporary storage sites, vehicle depots, berthing areas and marshalling yards used for the temporary storage during carriage of dangerous goods shall be properly secured, well lit and, where possible and appropriate, not accessible to the general public.

1.10.1.4 Each crew member of a vehicle carrying dangerous goods shall carry with them means of identification, which includes their photograph, during carriage.

1.10.1.5 Safety inspections in accordance with 1.8.1 and 7.5.1.1 shall cover appropriate security measures.

1.10.1.6 The competent authority shall maintain up-to-date registers of all valid training certificates for drivers stipulated in 8.2.1 issued by it or by any recognized organization.

1.10.2 Security training

1.10.2.1 The training and the refresher training specified in Chapter 1.3 shall also include elements of security awareness. The security refresher training need not be linked to regulatory changes only.

1.10.2.2 Security awareness training shall address the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. It shall include awareness of security plans (if appropriate) commensurate with the responsibilities and duties of individuals and their part in implementing security plans.

1.10.3 Provisions for high consequence dangerous goods

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

1.10.3.2 ***Security plans***

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

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

(a) specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities;

(b) records of dangerous goods or types of dangerous goods concerned;

(c) review of current operations and assessment of security risks, including any stops necessary to the transport operation, the keeping of dangerous goods in the vehicle, tank or container before, during and after the journey and the temporary storage of dangerous goods during the course of intermodal transfer or transshipment between units;

(d) clear statement of measures that are to be taken to reduce security risks, commensurate with the responsibilities and duties of the participant, including:

- training;

- security policies (e.g. response to higher threat conditions, new employee/employment verification, etc.);

- operating practices (e.g. choice/use of routes where known, access to dangerous goods in temporary storage (as defined in (c)), proximity to vulnerable infrastructure etc.);

- equipment and resources that are to be used to reduce security risks;

(e) effective and up to date procedures for reporting and dealing with security threats, breaches of security or security incidents;

(f) procedures for the evaluation and testing of security plans and procedures for periodic review and update of the plans;

(g) measures to ensure the physical security of transport information contained in the security plan; and

(h) measures to ensure that the distribution of information relating to the transport operation contained in the security plan is limited to those who need to have it. Such measures shall not preclude the provision of information required elsewhere in ADR.

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

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

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

1.10.4 In accordance with the provisions of 1.1.3.6, the requirements of 1.10.1, 1.10.2, 1.10.3 and 8.1.2.1 (d) do not apply when the quantities carried in packages on a transport unit do not exceed those referred to in 1.1.3.6.3. In addition, the requirements of 1.10.1, 1.10.2, 1.10.3 and 8.1.2.1 (d) do not apply when the quantities carried in tanks or in bulk on a transport unit do not exceed those referred to in 1.1.3.6.3.

1.10.5 High consequence dangerous goods are those listed in the table below and carried in quantities greater than those indicated therein.

Table 1.10.5: List of high consequence dangerous goods

Class	Division	Substance or article	Quantity		
			Tank (*l*)	Bulk (kg)	Packages (kg)
1	1.1	Explosives	[a]	[a]	0
	1.2	Explosives	[a]	[a]	0
	1.3	Compatibility group C explosives	[a]	[a]	0
	1.5	Explosives	0	[a]	0
2		Flammable gases (classification codes including only the letter F)	3000	[a]	[b]
		Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols	0	[a]	0

Class	Division	Substance or article	Quantity		
			Tank (*l*)	Bulk (kg)	Packages (kg)
3		Flammable liquids of packing groups I and II	3000	[a]	[b]
		Desensitized explosives	[a]	[a]	0
4.1		Desensitized explosives	[a]	[a]	0
4.2		Packing group I substances	3000	[a]	[b]
4.3		Packing group I substances	3000	[a]	[b]
5.1		Oxidizing liquids of packing group I	3000	[a]	[b]
		Perchlorates, ammonium nitrate and ammonium nitrate fertilizers	3000	3000	[b]
6.1		Toxic substances of packing group I	0	[a]	0
6.2		Infectious substances of Category A	[a]	[a]	0
7		Radioactive material	3000 A_1 (special form) or 3000 A_2, as applicable, in Type B or Type C packages		
8		Corrosive substances of packing group I	3000	[a]	[b]

[a] *Not relevant.*

[b] *The provisions of 1.10.3 do not apply, whatever the quantity is.*

***NOTE**: For purposes of non-proliferation of nuclear material the Convention on Physical Protection of Nuclear Material applies to international transport supported by IAEA INFCIRC/225(Rev.4).".*

PART 2

Chapter 2.1

2.1.3.4 Current 2.1.3.4 becomes new 2.1.3.4.1 with the following changes:
– first sentence: replace: "2.1.3.5" with "2.1.3.5.3",
– delete the indent for Class 9.

Add a new paragraph 2.1.3.4 to read as follows:
"Solutions and mixtures containing a substance belonging to one of the entries mentioned in 2.1.3.4.1 or 2.1.3.4.2 shall be classified in accordance with the provisions of these paragraphs.".

2.1.3.4.2 Add a new paragraph to read as follows:
"2.1.3.4.2 Solutions and mixtures containing a substance belonging to one of the following entries of Class 9:

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

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

- they do not contain any additional dangerous component other than components of packing group III of classes 3, 4.1, 4.2, 4.3, 5.1, 6.1 or 8; and

- they do not have the hazard characteristics as indicated in 2.1.3.5.3."

2.1.3.8 Delete the last sentence ("Solutions and mixtures…. (see also 2.3.5.6).)".

2.1.3.9 Current 2.1.3.9 (Table of precedence of hazards) becomes new 2.1.3.10. Amend all references to this table accordingly.

Add a new paragraph 2.1.3.9 to read as follows:

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

2.1.3.10 (Former 2.1.3.9) In NOTE 2, add ", LIQUID" after "UN No. 2315 POLYCHLORINATED BIPHENYLS" and insert "or UN No. 3432 POLYCHLORINATED BIPHENYLS, SOLID" before "in Class 9, (II).".

Chapter 2.2

General note: *For all changes concerning sections 2.xy.3 (list of collective entries), the amended entries have to be rearranged (if necessary) and the new entries have to be inserted so as to keep the order "Generic entry", "Specific n.o.s. entry" and "General n.o.s. entry".*

Section 2.2.2

2.2.2.1.6 (c) Amend to read as follows:

"Assignment to group F shall apply if the contents include 85% by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more.

It shall not apply if the contents contain 1% by mass or less flammable components and the heat of combustion is less than 20 kJ/g.

Otherwise the aerosol shall be tested for flammability in accordance with the tests described in the *Manual of Tests and Criteria*, Part III, section 31. Extremely flammable and flammable aerosols shall be assigned to group F.

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

2.2.2.3 In the "liquefied gases" table, Classification code 2F, amend the existing name for UN No. 1010 to read:

"BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l".

Amend the note under UN No. 1010 to read as follows:
"***NOTE:*** *Butadienes, stabilized are also classified under UN No. 1010, see Table A of Chapter 3.2.".*

In the table for "Other articles containing gas under pressure", Classification code 6A, add UN No 2857 to read as follows:
"2857 REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)".

Section 2.2.3

2.2.3.1.1 In the last sentence of the third paragraph, replace "and 3357" with ", 3357 and 3379". Delete notes 5 and 6.

2.2.3.1.3 Amend the definitions for packing groups I, II and III to read as follows:

	Flash-point (closed cup)	**Initial boiling point**
I	--	≤ 35°C
II [a]	< 23°C	> 35°C
III [a]	≥ 23°C and ≤ 61°C	> 35°C

[a] *See also 2.2.3.1.4.*

For a liquid with (a) subsidiary risk(s), the packing group determined in accordance with the table above and the packing group based on the severity of the subsidiary risk(s) shall be considered; the classification and packing group shall then be determined in accordance with the table of precedence of hazards in 2.1.3.10.".

2.2.3.3 Under "Liquid, desensitised explosive", classification code D, add a new entry to read as follows: "3379 DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.".
Delete the sentence between brackets.

Section 2.2.41

2.2.41.1.12 Amend the first sentence to read as follows:
"Self-reactive substances which have already been classified and are permitted for carriage in packagings are listed in 2.2.41.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks according to Chapter 4.2 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3221 to 3240), and appropriate subsidiary risks and remarks providing relevant transport information are given.".

2.2.41.1.13 Amend the beginning of the first sentence to read:
"Classification of self-reactive substances not listed in 2.2.41.4, 4.1.4.2, packing instruction IBC520 or 4.2.5.2, portable tank instruction T23 and assignment to…".

2.2.41.1.18 Add UN No. 3380 to the list of UN numbers.

2.2.41.3 Under "Solid desensitised explosives", classification code D, add a new entry to read as follows: "3380 DESENSITIZED EXPLOSIVE, SOLID, N.O.S.".
Delete the sentence between brackets.

2.2.41.4 Amend the title to read "List of currently assigned self-reactive substances in packagings".

Add the following text before the existing NOTE 1:
"In the column "Packing Method", codes "OP1" to "OP8" refer to packing methods in 4.1.4.1, packing instruction P520 (see also 4.1.7.1). Self-reactive substances to be carried shall fulfil the classification and the control and emergency temperatures (derived from the SADT) as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapter 4.2, see 4.2.5.2, portable tank instruction T23.".

Delete NOTE 2. As a consequence, "***NOTE 1***" becomes "***NOTE***".

Section 2.2.42

2.2.42.1.2 Under "S", add at the end "S5 Organometallic".

2.2.42.1.5 Add a NOTE 3 to read: *"**NOTE 3:** Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.6.".*

2.2.42.3 For substances without subsidiary risk, create a new classification code "S5 Organometallic" for the following entries:
"3391 ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC
3392 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC
3400 ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING".

Classification code **SW**, delete the entries for UN Nos. 2003, 3049, 3050 and 3203 (2 entries each) and the related notes. Insert the following new entries:
"3433 LITHIUM ALKYLS, SOLID
3393 ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE
3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE".

For UN No. 2445, add ", LIQUID" at the end.

For the entry "ALUMINIUM ALKYL HALIDES, SOLID" (currently assigned to UN No. 3052), replace "3052" with "3461" and delete "or" after "ALUMINIUM ALKYL HALIDES, LIQUID".

Section 2.2.43

2.2.43.1.5 Add a NOTE to read:
"***NOTE:*** *Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.6.".*

2.2.43.3 Insert ", LIQUID" at the end of UN Nos. 1389 and 1392 (Classification code W2) and move them to Classification code W1.

Classification code **W1**, insert the following new entries:
"1420 POTASSIUM METAL ALLOYS, LIQUID
1422 POTASSIUM SODIUM ALLOYS, LIQUID
3398 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE".

Classification code **W2**, insert the following new entries:
"3401 ALKALI METAL AMALGAM, SOLID
3402 ALKALINE EARTH METAL AMALGAM, SOLID
3403 POTASSIUM METAL ALLOYS, SOLID
3404 POTASSIUM SODIUM ALLOYS, SOLID
3395 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE".

Classification code **WF1**, delete all the existing entries and insert the following new entry:
"3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE".

Delete Note b and rename subsequent notes accordingly.

Classification code **WF2**, delete the entry for UN No. 3372 and insert the following new entry:
"3396 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE".

Classification code **WS**, insert the following new entry:
"3397 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING".

Section 2.2.52

2.2.52.1.7 Amend the first sentence to read as follows:
"Organic peroxides which have already been classified and are permitted for carriage in packagings are listed in 2.2.52.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks in accordance with Chapters 4.2 and 4.3 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3101 to 3120) and appropriate subsidiary risks and remarks providing relevant transport information are given.".

2.2.52.1.8 Insert ", 4.1.4.2, packing instruction IBC520 or 4.2.5.2, portable tank instruction T23," after "2.2.52.4" in the first sentence.

2.2.52.4 In the title add, at the end: "in packagings".

Replace the existing NOTE under the title with the following text:
"In the column "Packing Method", codes "OP1" to "OP8" refer to packing methods in 4.1.4.1, packing instruction P520 (see also 4.1.7.1). Organic peroxides to be carried shall fulfill the classification and the control and emergency temperatures (derived from the SADT) as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapters 4.2 and 4.3, see 4.2.5.2, portable tank instruction T23.".

In the table:
In the column "Subsidiary risks and remarks", delete "30)".

Amend the entries listed below as follows:

Organic peroxide		Column	Amendment
ACETYL BENZOYL PEROXIDE		Delete	
tert-AMYL PEROXYACETATE		Packing method	Replace "OP8" with "OP7"
		Number	Replace "3107" with "3105"
tert-BUTYL CUMYL PEROXIDE	(1st row)	Packing method	Replace "OP7" with "OP8"
		Number	Replace "3105" with "3107"
	(2nd row)	Concentration	Replace "≤ 42" with "≤ 52"
		Inert solid	Replace "≥ 58" with "≥ 48"
		Packing method	Replace "OP7" with "OP8"
		Number	Replace "3106" with "3108"
n-BUTYL-4,4-DI-(tert-BUTYLPEROXY) VALERATE	(2nd row)	Delete	
	(3rd row)	Concentration	Replace "≤ 42" with "≤ 52"
		Inert solid	Replace "≥ 58" with "≥ 48"
tert-BUTYL HYDROPEROXIDE	(4th row)	Packing method	Delete ",N,M"
tert-BUTYL MONOPEROXYPHTHALATE		Delete	
tert-BUTYL PEROXYACETATE	(3rd row)	Diluent type A	Delete "≥ 68"
		Diluent type B	Add "≥ 68"
		Packing method	Delete ",N"
	(4th and 5th rows)	Delete	
tert-BUTYL PEROXYBENZOATE	(1st row)	Diluent type A	Delete "< 22"
tert-BUTYL PEROXYDIETHYLACETATE + tert-BUTYL PEROXYBENZOATE		Delete	
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	5th and 6th rows	Delete	
tert-BUTYL PEROXYNEODECANOATE	(3rd row)	Delete	
	(4th row)	Number	Replace "3117" with "3119"
	(6th row)	Packing method	Delete ",N"
tert-BUTYL PEROXYPIVALATE	(4th and 5th rows)	Delete	
3-tert-BUTYLPEROXY-3-PHENYLPHTHALIDE		Delete	
tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	(2nd row)	Diluent type A	Delete "≥ 68"
		Diluent type B	Add "≥ 68"
		Packing method	Delete ", N"
	(3rd row)	Delete	
CUMYL HYDROPEROXIDE	(2nd row)	Packing method	Delete ", M, N"
CUMYL PEROXYNEODECANOATE	(3rd row)	Delete	

Organic peroxide		Column	Amendment
DIBENZOYL PEROXIDE	(8th row)	Delete	
	(11th row)	Packing method	Delete ",N"
DIBENZYL PEROXYDICARBONATE		Delete	
DI-(4-tert-BUTYLCYCLOHEXYL) PEROXYDICARBONATE	(2nd row)	Packing method	Delete ",N"
DI-tert-BUTYL PEROXIDE	(1st row)	Concentration	Replace ">32" with ">52"
	(2nd row)	Packing method	Delete ",N"
	(3rd row)	Delete	
1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE	(5th row)	Diluent type A	Replace "≥ 36" with "≥ 25"
	(6th row)	Packing method	Delete ",N"
1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE	(3rd row)	Packing method Number	Replace "OP7" with "OP5" Replace "3105" with "3103"
	(4th row)	Packing method Number	Replace "OP7" with "OP8" Replace "3106" with "3110"
DICETYL PEROXYDICARBONATE	(2nd row)	Packing method	Delete ",N"
DICUMYL PEROXIDE	(1st row)	Concentration Packing method	Replace "42" with "52" Delete ",M"
DICYCLOHEXYL PEROXYDICARBONATE	(1st and 2nd rows)	Control temperature Emergency temperature	Replace "+5" with "+10" Replace "+10" with "+15"
DI-(2-ETHYLHEXYL) PEROXYDICARBONATE	(4th row)	Delete	
	(6th row)	Concentration Number	Replace "42" with "52" Replace "3118" with "3120"
DIETHYL PEROXYDICARBONATE		Delete	
DIISOTRIDECYL PEROXYDICARBONATE		Delete	
DILAUROYL PEROXIDE	(2nd row)	Packing method	Delete ",N"
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE	(2nd row)	Delete	
DIMYRISTYL PEROXYDICARBONATE	(3rd row)	Delete	
DIPEROXY AZELAIC ACID		Delete	
DIPEROXY DODECANE DIACID		Delete	
DISTEARYL PEROXYDICARBONATE		Delete	
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	(2nd row)	Packing method	Delete ", N"
	(4th and 5th rows)	Delete	
DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3) PEROXIDE		Delete	
3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE		Delete	
ISOPROPYLCUMYL HYDROPEROXIDE		Packing method	Delete ", M, N"

Organic peroxide		Column	Amendment
p-MENTHYL HYDROPEROXIDE	(2nd row)	Packing method	Delete ", M, N"
METHYL ETHYL KETONE PEROXIDE(S)	(1st row)	Concentration	Replace "≤ 52" with "see remark 8)"
	(2nd row)	Concentration	Replace "≤ 45" with "see remark 9)"
	(3rd now)	Concentration	Replace "≤ 40" with "see remark 10)"
	(4th row)	Delete	
PEROXYACETIC ACID, TYPE F, stabilized	(1st row)	Packing method	Delete ", N"
PINANYL HYDROPEROXIDE	(1st row)	Concentration	Replace "56" with ">56"
	(2nd row)	Concentration Diluent type A Packing method	Replace "<56" with "≤ 56" Replace ">44" with "≥44" Delete ", M"
TETRAHYDRONAPHTHYL HYDROPEROXIDE		Delete	
1,1,3,3-TETRAMETHYLBUTYL PEROXY-2 ETHYLHEXANOATE		Control temperature Emergency temperature	Replace "+20" with "+15" Replace "+25" with "+20"
1,1,3,3-TETRAMETHYLBUTYL PEROXYPHENOACETATE		Delete	

Insert the following new entries:

Organic peroxide	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
tert-AMYLPEROXY ISOPROPYL CARBONATE	≤ 77	≥ 23				OP5			3103	
tert-BUTYL PEROXYNEO-HEPTANOATE *(new second row)*	≤ 42 as a stable dispersion in water					OP8	0	+10	3117	
1,6-Di-(tert-BUTYLPEROXY-CARBONYLOXY) HEXANE	≤ 72	≥ 28				OP5			3103	
DICYCLOHEXYL PEROXYDICARBONATE *(new third row)*	≤ 42 as a stable dispersion in water					OP8	+15	+20	3119	
1-(2-ETHYLHEXANOYL-PEROXY)-1,3-DIMETHYLBUTYL PEROXYPIVALATE	≤ 52	≥ 45	≥ 10			OP7	-20	-10	3115	
PEROXYLAURIC ACID	≤ 100					OP8	+35	+40	3118	
POLYETHER POLY-tert-BUTYLPEROXY-CARBONATE	≤ 52		≥ 23			OP8			3107	
1,1,3,3-TETRAMETHYL-BUTYL PEROXYPIVALATE	≤ 77	≥ 23				OP7	0	+10	3315	

2.2.52.4 Remarks after the table:

1) Add the following sentence at the end: "*The boiling point of diluent type B shall be at least 60 °C higher than the SADT of the organic peroxide*.".

8) Amend to read as follows: "*Available oxygen > 10% and ≤ 10.7%, with or without water.*".

9) Amend to read as follows: "*Available oxygen ≤ 10%, with or without water.*".

10) Amend to read as follows: "*Available oxygen ≤ 8,2%, with or without water.".*

21) Amend to read as follows: "*With ≥ 25% diluent type A by mass, and in addition ethylbenzene.*".

22) Amend to read as follows: "*With ≥ 19% diluent type A by mass, and in addition methyl isobutyl ketone.*".

30) Delete.

Section 2.2.61

2.2.61.1.3 Replace the existing definition for "*LD_{50} for acute oral toxicity*" with the following text: "*LD_{50} (median lethal dose) for acute oral toxicity* is the statistically derived single dose of a substance that can be expected to cause death within 14 days in 50 per cent of young adult albino rats when administered by the oral route. The LD_{50} value is expressed in terms of mass of test substance per mass of test animal (mg/kg);".

2.2.61.3 Classification code **T1**, amend the following entries to read:
"3276 NITRILES, TOXIC, LIQUID, N.O.S";
"3278 ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.".

Insert the following new entries:
"3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}"
"3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **T2**, replace "1693" with "3448", "3172" with "3462" and "3278" with "3464" and for this last UN No., replace "N.O.S., solid" with "SOLID, N.O.S.".

Add the following entry: "3439 NITRILES, TOXIC, SOLID, N.O.S.".

Classification code **T3**, amend liquid entries for UN Nos. 3280, 3281 and 3282 to read as follows:
"3280 ORGANOARSENIC COMPOUND, LIQUID, N.O.S.";
"3281 METAL CARBONYLS, LIQUID, N.O.S.";
"3282 ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.".

Replace current solid entries for UN Nos. 3280, 3281 and 3282, respectively, with the following:

"3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.
3466 METAL CARBONYLS, SOLID, N.O.S.
3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.".

Classification code **T4**, insert the following new entries:

"3440 SELENIUM COMPOUND, LIQUID, N.O.S.
3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}
3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **T5**, amend the entry for UN No. 3283 to read as follows:

"3283 SELENIUM COMPOUND, SOLID, N.O.S.".

Insert a new note "h", with a reference to it after "liquid" and "solid" for the pesticides of classification codes **T6** and **T7**, with the following text:

"h *Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR.*".

Rename subsequent notes accordingly.

Classification code **T8**, amend the entry for UN No. 3315 to read as follows:

"3315 CHEMICAL SAMPLE, TOXIC".

Classification code **TF1**, insert the following new entries:

"3383 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}
3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **TW1**, insert the following new entries:

"3385 TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}
3386 TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **TO1**, insert the following new entries:

"3387 TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}

3388 TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **TC1**, insert the following new entries:

"3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}

3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Classification code **TC3**, insert the following new entries:

"3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}

3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}".

Section 2.2.62

2.2.62.1.1 Amend to read as follows:

"The heading of Class 6.2 covers infectious substances. For the purposes of ADR, infectious substances are substances which are known or are reasonably expected to contain pathogens. Pathogens are defined as micro-organisms (including bacteria, viruses, rickettsiae, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.".

Deletes Notes 1 and 2 and renumber current notes 3 and 4 accordingly. In note 2 (former note 4), replace "3172" with "3172 or 3462".

2.2.62.1.2 (unchanged)

2.2.62.1.3 to 2.2.62.2 Amend to read as follows:

"Definitions

2.2.62.1.3 For the purposes of ADR,

"Biological products" are those products derived from living organisms which are manufactured and distributed in accordance with the requirements of appropriate national authorities, which may have special licensing requirements, and are used either for prevention, treatment, or diagnosis of disease in humans or animals, or for development, experimental or investigational purposes related thereto. They include, but are not limited to, finished or unfinished products such as vaccines;

"*Cultures"* (laboratory stocks) are the result of a process by which pathogens are amplified or propagated in order to generate high concentrations, thereby increasing the risk of infection when exposure to them occurs. This definition refers to cultures prepared for the intentional generation of pathogens and does not include cultures intended for diagnostic and clinical purposes;

"*Genetically modified micro-organisms and organisms"* are micro-organisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally;

"*Medical or clinical wastes"* are wastes derived from the medical treatment of animals or humans or from bio-research.

Classification

2.2.62.1.4 Infectious substances shall be classified in Class 6.2 and assigned to UN Nos. 2814, 2900 or 3373, as appropriate.

Infectious substances are divided into the following categories:

2.2.62.1.4.1 Category A: An infectious substance which is carried in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease to humans or animals. Indicative examples of substances that meet these criteria are given in the table in this paragraph.

NOTE : *An exposure occurs when an infectious substance is released outside of the protective packaging, resulting in physical contact with humans or animals.*

(a) Infectious substances meeting these criteria which cause disease in humans or both in humans and animals shall be assigned to UN No. 2814. Infectious substances which cause disease only in animals shall be assigned to UN No. 2900;

(b) Assignment to UN No. 2814 or UN No. 2900 shall be based on the known medical history and symptoms of the source human or animal, endemic local conditions, or professional judgement concerning individual circumstances of the source human or animal.

NOTE 1*: The proper shipping name for UN No. 2814 is "INFECTIOUS SUBSTANCE, AFFECTING HUMANS". The proper shipping name for UN No. 2900 is "INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only".*

NOTE 2**:** *The following table is not exhaustive. Infectious substances, including new or emerging pathogens, which do not appear in the table but which meet the same criteria shall be assigned to Category A. In addition, if there is doubt as to whether or not a substance meets the criteria it shall be included in Category A.*

NOTE 3: *In the following table, the micro-organisms written in italics are bacteria, mycoplasmas, rickettsia or fungi.*

INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A IN ANY FORM UNLESS OTHERWISE INDICATED (2.2.62.1.4.1)	
UN Number and name	**Micro-organism**
UN No. 2814 Infectious substances affecting humans	*Bacillus anthracis (cultures only)* *Brucella abortus (cultures only)* *Brucella melitensis (cultures only)* *Brucella suis (cultures only)* *Burkholderia mallei - Pseudomonas mallei* – Glanders *(cultures only)* *Burkholderia pseudomallei – Pseudomonas pseudomallei (cultures only)* *Chlamydia psittaci* - avian strains (cultures only) *Clostridium botulinum (cultures only)* *Coccidioides immitis (cultures only)* *Coxiella burnetii (cultures only)* Crimean-Congo hemorrhagic fever virus Dengue virus (cultures only) Eastern equine encephalitis virus (cultures only) *Escherichia coli*, verotoxigenic (cultures only) Ebola virus Flexal virus *Francisella tularensis (cultures only)* Guanarito virus Hantaan virus Hantaviruses causing hantavirus pulmonary syndrome Hendra virus Hepatitis B virus (cultures only) Herpes B virus (cultures only) Human immunodeficiency virus (cultures only) Highly pathogenic avian influenza virus (cultures only) Japanese Encephalitis virus (cultures only) Junin virus Kyasanur Forest disease virus Lassa virus Machupo virus Marburg virus Monkeypox virus *Mycobacterium tuberculosis (cultures only)* Nipah virus Omsk hemorrhagic fever virus Poliovirus (cultures only) Rabies virus *Rickettsia prowazekii (cultures only)* *Rickettsia rickettsii* (cultures only) Rift Valley fever virus Russian spring-summer encephalitis virus (cultures only) Sabia virus *Shigella dysenteriae type 1 (cultures only)* Tick-borne encephalitis virus (cultures only)

INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A IN ANY FORM UNLESS OTHERWISE INDICATED (2.2.62.1.4.1)	
UN Number and name	**Micro-organism**
UN No. 2814 Infectious substances affecting humans ***(cont'd)***	Variola virus Venezuelan equine encephalitis virus West Nile virus (cultures only) Yellow fever virus (cultures only) *Yersinia pestis* (cultures only)
UN No. 2900 Infectious substances affecting animals only	African horse sickness virus African swine fever virus Avian paramyxovirus Type 1 - Newcastle disease virus Bluetongue virus Classical swine fever virus Foot and mouth disease virus Lumpy skin disease virus *Mycoplasma mycoides* - Contagious bovine pleuropneumonia Peste des petits ruminants virus Rinderpest virus Sheep-pox virus Goatpox virus Swine vesicular disease virus Vesicular stomatitis virus

2.2.62.1.4.2 Category B: An infectious substance which does not meet the criteria for inclusion in Category A. Infectious substances in Category B shall be assigned to UN No. 3373 except that cultures, as defined in 2.2.62.1.3, shall be assigned to UN No. 2814 or UN No. 2900 as appropriate.

NOTE: *The proper shipping name of UN No. 3373 is "DIAGNOSTIC SPECIMENS" or "CLINICAL SPECIMENS".*

2.2.62.1.5 Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals are not subject to the provisions of ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.6 Blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation and any tissues or organs intended for use in transplantation are not subject to the provisions of ADR.

2.2.62.1.7 Substances for which there is a low probability that infectious substances are present, or where the concentration is at a level naturally encountered, are not subject to the provisions of ADR. Examples are: foodstuffs, water samples, living persons and substances which have been treated so that the pathogens have been neutralized or deactivated.

2.2.62.1.8 A live animal which has been intentionally infected and is known or suspected to contain an infectious substance shall only be carried under terms and conditions approved by the competent authority[6].

2.2.62.1.9 *Biological products*

For the purposes of ADR, biological products are divided into the following groups:

(a) those which are manufactured and packaged in accordance with the requirements of appropriate national authorities and carried for the purposes of final packaging or distribution, and use for personal health care by medical professionals or individuals. Substances in this group are not subject to the provisions of ADR;

(b) those which do not fall under paragraph (a) and are known or reasonably believed to contain infectious substances and which meet the criteria for inclusion in Category A or Category B. Substances in this group shall be assigned to UN Nos. 2814, 2900 or 3373, as appropriate.

***NOTE**: Some licensed biological products may present a biohazard only in certain parts of the world. In that case, competent authorities may require these biological products to be in compliance with local requirements for infectious substances or may impose other restrictions.*

2.2.62.1.10 *Genetically modified micro-organisms and organisms*

Genetically modified micro-organisms not meeting the definition of infectious substance shall be classified according to section 2.2.9.

2.2.62.1.11 *Medical or clinical wastes*

2.2.62.1.11.1 Medical or clinical wastes containing Category A infectious substances or containing Category B infectious substances in cultures shall be assigned to UN No. 2814 or UN No. 2900 as appropriate. Medical or clinical wastes containing infectious substances in Category B, other than cultures, shall be assigned to UN No. 3291.

2.2.62.1.11.2 Medical or clinical wastes which are reasonably believed to have a low probability of containing infectious substances shall be assigned to UN No. 3291.

***NOTE:** The proper shipping name for UN No. 3291 is "CLINICAL WASTE, UNSPECIFIED, N.O.S." or "(BIO) MEDICAL WASTE, N.O.S". or "REGULATED MEDICAL WASTE, N.O.S.".*

2.2.62.1.11.3 Decontaminated medical or clinical wastes which previously contained infectious substances are not subject to the provisions of ADR unless they meet the criteria for inclusion in another class.

2.2.62.1.11.4 Medical or clinical wastes assigned to UN No. 3291 are assigned to packing group II.

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[6] *Such regulations are contained in, e.g. Directive 91/628/EEC (Official Journal of the European Communities No. L 340 of 11 December 1991, p. 17) and in the Recommendations of the Council of Europe (Ministerial Committee) on the carriage of certain animal species.*

2.2.62.2 ***Substances not accepted for carriage***

Live vertebrate or invertebrate animals shall not be used to carry an infectious agent unless the agent cannot be carried by other means or unless this carriage has been approved by the competent authority (see 2.2.62.1.8).".

2.2.62.3 Classification code **I3**, delete the note and amend the entry for UN 3291 to read as follows:

"3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or
3291 (BIO)MEDICAL WASTE, N.O.S. or
3291 REGULATED MEDICAL WASTE, N.O.S."

Classification code **I4**, amend the entry for UN 3373 to read as follows:

"3373 DIAGNOSTIC SPECIMENS or
3373 CLINICAL SPECIMENS".

Section 2.2.7

2.2.7.1.2 In (e), insert the following text after "naturally occurring radionuclides":
"which are either in their natural state, or have only been processed for purposes other than for extraction of the radionuclides, and"

Add a new (f) to read as follows:
"(f) Non-radioactive solid objects with radioactive substances present on any surfaces in quantities not in excess of the limit defined in 2.2.7.2".

2.2.7.2 In the definition of "package", add "package" after "Type IP-1", "Type IP-2" and "Type IP-3" in b), c) and d), in the text between brackets.

2.2.7.6.1.1 Amend the title of the table to read: "Multiplication factor for tanks, containers and unpackaged LSA-I and SCO-I".

2.2.7.6.2.2 Amend to read: "The criticality safety index for each overpack or container shall be determined as the sum of the CSIs of all the packages contained. The same procedure shall be followed for determining the total sum of the CSIs in a consignment or aboard a vehicle."

2.2.7.7.2.1 In the table, for "Cf-252", replace "5×10^{-2}" with "1×10^{-1}" under the heading "A_1".

2.2.7.8.3 Insert the words "or overpack" after "package".

2.2.7.9.1 (a) Replace "(special provisions 172 or 290)" with "(special provision 290, if relevant)" and "5.4.1.2.5.1 (a)" with "5.4.1.1.1 (a)".

2.2.7.9.3 (b) Amend to read as follows:
"(b) Each instrument or manufactured article bears the marking "RADIOACTIVE" except:

(i) radioluminescent time-pieces or devices;

(ii) consumer products that either have received regulatory approval according to 2.2.7.1.2 (d) or do not individually exceed the activity limit for an exempt

consignment in column (5) of Table 2.2.7.7.2.1, provided such products are carried in a package that bears the marking "RADIOACTIVE" on an internal surface in such a manner that warning of the presence of radioactive material is visible on opening the package; and ".

2.2.7.9.7 In the list of non applicable paragraphs, replace "5.4.1.3" with "5.4.3", insert "5.4.1.1.1, except (a)" after "5.2.2.1.11.1" and delete "except for (a)" after "5.4.1.2.5.1".

Section 2.2.8

2.2.8.1.6 (c) Replace the two last sentences of the second indent with the following text:
"For the purposes of testing steel, type S235JR+CR (1.0037 resp. St 37-2), S275J2G3+CR (1.0144 resp. St 44-3), ISO 3574, Unified Numbering System (UNS) G10200 or SAE 1020, and for testing aluminium, non-clad, types 7075-T6 or AZ5GU-T6 shall be used. An acceptable test is prescribed in the Manual of Tests and Criteria, Part III, Section 37.".

2.2.8.3 Delete notes "b" and "c". Rename notes "d" to "g" accordingly.
In note "e" (former g), add ", SOLID" after "SODIUM FLUORIDE" and "POTASSIUM FLUORIDE", replace "and" with "," before "UN No. 2856" and insert the following text before "are substances of Class 6.1":
", UN No. 3415 SODIUM FLUORIDE SOLUTION and UN No. 3422 POTASSIUM FLUORIDE SOLUTION".

Section 2.2.9

2.2.9.1.10 Replace the last sentence with the following text:
"Notwithstanding the provisions of 2.3.5, substances which cannot be assigned to other classes of ADR or to other entries of Class 9, and which are not identified in Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances[11], as amended, as substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated, are not subject to ADR.

Notwithstanding the provisions of 2.1.3.8, solutions and mixtures (such as preparations and wastes) of substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated in Directive 67/548/EEC, as amended, need only be assigned to UN Nos. 3077 or 3082 if, according to Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations[12], as amended, they are also allocated letter N "Environmentally hazardous" (R50; R50/53; R51/53) and they cannot be assigned to one of classes 1 to 8 or to any other entry of Class 9.".

2.2.9.1.11 Amend to read:
"2.2.9.1.11 Genetically modified micro-organisms (GMMOs) and genetically modified organisms (GMOs) are micro-organisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally. They are assigned to Class 9 (UN No. 3245) if they do not meet the definition of

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[11] *Official Journal of the European Communities No.196, of 16 August 1967, pp. 1 – 5.*

[12] *Official Journal of the European Communities No. L 200, of 30 July 1999, pp. 1 – 68.*

infectious substances, but are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction.

NOTE 1: *GMMOs which are infectious are substances of Class 6.2 (UN Nos. 2814 and 2900).*

NOTE 2: *GMMOs or GMOs are not subject to the provisions of ADR when authorized for use by the competent authorities of the countries of origin, transit and destination*[13].

NOTE 3: *Live animals shall not be used to carry genetically modified micro-organisms classified in Class 9 unless the substance can be carried no other way.".*

2.2.9.3 In the list of collective entries, under Classification code **M2**, amend the entry for UN No. 2315 to read as follows:
"2315 POLYCHLORINATED BIPHENYLS, LIQUID".
Insert the following new entry immediately after the liquid entry for the same substance
"3432 POLYCHLORINATED BIPHENYLS, SOLID".

2.2.9.4 Delete.

Chapter 2.3

2.3.6 Add a new paragraph and a new figure 2.3.6 as follows:

"**2.3.6 Classification of organometallic substances in Classes 4.2 and 4.3**

Depending on their properties as determined in accordance with tests N.1 to N.5 of the Manual of Tests and Criteria, Part III, section 33, organometallic substances may be classified in Class 4.2 or 4.3, as appropriate, in accordance with the flowchart scheme given in Figure 2.3.6.

NOTE 1: *Depending on their other properties and on the precedence of hazard table (see 2.1.3.10), organometallic substances may have to be classified in other classes as appropriate.*

NOTE 2*: Flammable solutions with organometallic compounds in concentrations which are not liable to spontaneous combustion or, in contact with water, do not emit flammable gases in dangerous quantities, are substances of Class 3.*

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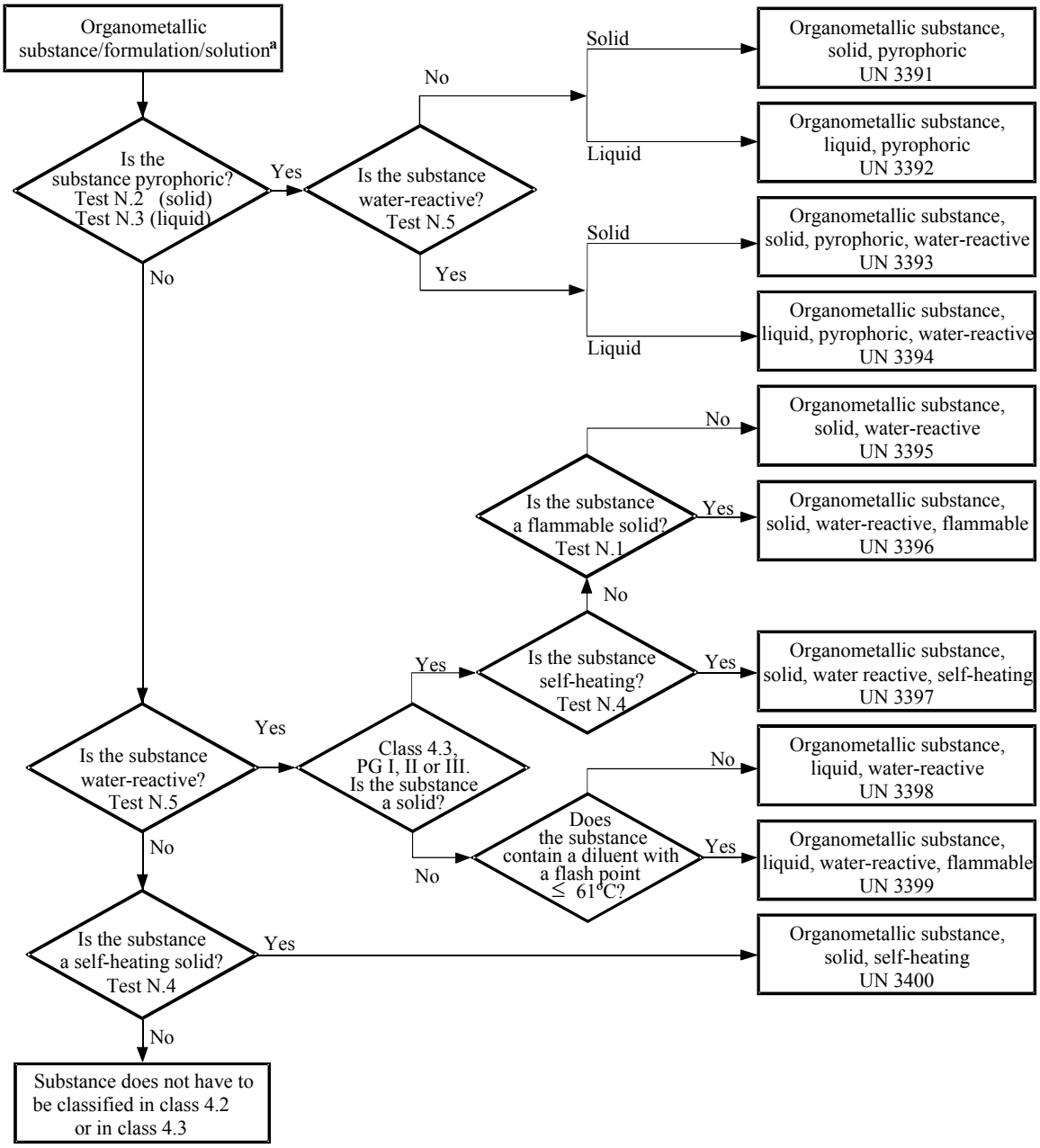
[13] *See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.*

Figure 2.3.6: Flowchart scheme for the classification of organometallic substances in Classes 4.2 and 4.3 [b]



[a] *If applicable and testing is relevant, taking into account reactivity properties, class 6.1 and 8 properties should be considered according to the table of precedence of hazards in 2.1.3.10.*

[b] *Test methods N.1 to N.5 can be found in the Manual of Tests and Criteria, Part III, Section 33.*

PART 3

Chapter 3.1

3.1.2.2 (b) Replace the existing text with the following:
"UN 2793 FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating. The proper shipping name is the most appropriate of the following combinations:

FERROUS METAL BORINGS
FERROUS METAL SHAVINGS
FERROUS METAL TURNINGS
FERROUS METAL CUTTINGS"

3.1.2.4 Replace the existing paragraph with the following text:
"3.1.2.4 Many substances have an entry for both the liquid and solid state (see definitions for liquid and solid in 1.2.1), or for the solid and solution. These are allocated separate UN numbers which are not necessarily adjacent to each other[1]."

3.1.2.8.1.3 Replace "UN 2003 METAL ALKYL, WATER-REACTIVE, N.O.S (trimethylgallium)" with "UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (trimethylgallium)".

Chapter 3.2

3.2.1 Column (10): Amend the title to read as follows: "Portable tank and bulk container instructions".

Insert the following sentence before the existing NOTE:
"The indication of a "(M)" means that the substance may be carried in UN MEGCs.".

Add the following sentence at the end of the current text, after the note:
"May also contain alphanumeric codes starting with the letters "BK" referring to types of bulk containers described in Chapter 6.11 which may be used for the carriage of bulk goods in accordance with 7.3.1.1 (a) and 7.3.2.".

Column (11): Amend the title to read as follows: "Portable tank and bulk container special provisions".

Column (12): In the second paragraph, replace "carried" with "offered for carriage in tanks".
Add the following new third paragraph:
"If for a solid, only a tank code for liquids (L) is indicated in this column, this means that this substance is only offered for carriage in tanks in the liquid (molten) state.".
Amend former fifth paragraph to read as follows:
"The indication of a (+) after the tank code means that the alternative use of the tanks is permitted only where this is specified in the certificate of type approval.".

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[1] *Details are provided in the alphabetical index (Table B of Chapter 3.2), e.g.:*
NITROXYLENES, LIQUID 6.1 1665
NITROXYLENES, SOLID 6.1 3447

Table A

Amend the heading applicable to columns (10) and (11) to read: "Portable tanks and bulk containers".

Add "7.3.2" in the heading of column (10), in the row containing the references to paragraphs.

Wherever they appear in column (7), replace "LQ20" and "LQ21" with "LQ0".

For all UN Nos. delete "TP13" in column (11) and "TE1" in column (13).

For all gases, delete "V7" in column (16).

Insert "CV36" in column (18) for all substances of Class 2 except for UN Nos. 1002, 1043, 1044, 1057, 1950, 2037, 2073, 2857, 3150, 3164, 3167, 3168, 3169, 3318 and 3358.

For all substances of class 9, delete "V1" in column (16).

For all pesticides of class 6.1 and classification codes "T6" and "T7", add "648" in column (6).

Assign "TP5" in column (11) to each refrigerated liquid gas that is assigned "T75" in column (10). (*Apply to UN Nos. 1003, 1038, 1073, 1913, 1951, 1961, 1963, 1966, 1970, 1972, 1977, 2187, 2201, 2591, 3136, 3138, 3158, 3311 and 3312*).

Assign "(M)" in column (10) to all gases for which an "x" appears in the column "MEGC" of packing instruction P200 of the UN Model Regulations on the Transport of Dangerous Goods. (*Apply to UN Nos.: 1002, 1005, 1006, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1020, 1021, 1022, 1023, 1026, 1027, 1028, 1029, 1030, 1032, 1033, 1035, 1036, 1037, 1039, 1040, 1041, 1046, 1048, 1049, 1050, 1053, 1055, 1056, 1058, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1070, 1071, 1072, 1075, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1085, 1086, 1087, 1581, 1582, 1612, 1741, 1749, 1858, 1859, 1860, 1912, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1962, 1964, 1965, 1967, 1968, 1969, 1971, 1973, 1974, 1976, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 2034, 2035, 2036, 2044, 2073, 2189, 2191, 2192, 2193, 2197, 2200, 2203, 2204, 2417, 2419, 2420, 2422, 2424, 2451, 2452, 2453, 2454, 2517, 2534, 2599, 2600, 2601, 2602, 2901, 3070, 3083, 3153, 3154, 3156, 3157, 3159, 3160, 3161, 3162, 3163, 3220, 3252, 3296, 3297, 3298, 3299, 3300, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3318, 3337, 3338, 3339, 3340, 3354, 3355)*.

For all the UN Nos. containing the words "fissile-excepted" in lower case in column (2), insert "317" in column (6). (*Apply to UN Nos.: 2912, 2913, 2915, 2916, 2917, 2919, 2978, 3321, 3322, 3323 and 3332*).

UN Nos.	Column	Amendment
0331 and 0332	(10)	Insert "T1"
	(11)	Insert "TP1", "TP17" and "TP32"
0336	(6)	Add "651"
1001	(12)	Insert "(M)" after the tank code
1005	(13)	Add "TT8"
1010	(2)	Amend the name to read as follows: "BUTADIENES, STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l".
1052	(18)	Add "CV34"
1057	(6)	Add "201"
	(8)	Replace "P205" with "P002"
	(9a)	Add "PP84 RR5"
1067	(12)	Insert "(M)" after the tank code
1076	(12)	Insert "(M)" after the tank code
1203	(2)	The amendment does not apply to the English version.
	(6)	Add "243"
1263 (all entries)	(6)	Add "650"
1267 (PG II), 1268 (PG II) and 3295 (PG II)	(6)	Add "649"
1268 (all entries)	(6)	Delete "274"
1334	(10)	Add "BK1 BK2"
1350	(10)	Add "BK1 BK2"
1366	(6)	Add "320"
1370	(6)	Add "320"
1376	(10)	Add "BK2"
1389	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
	(8)	Delete "P403"
1392	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
	(8)	Delete "P403 IBC04"
1408	(9a)	Insert "B6"
	(10)	Add "BK2"
1420	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
	(8)	Replace "P403 IBC04" with "P402"
1422	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
	(8)	Replace "P403 IBC04" with "P402"
1438	(10)	Add "BK1 BK2"

UN Nos.	Column	Amendment
1454	(10)	Add "BK1 BK2"
1474	(10)	Add "BK1 BK2"
1486	(10)	Add "BK1 BK2"
1495	(10)	Add "BK1 BK2"
1498	(10)	Add "BK1 BK2"
1499	(10)	Add "BK1 BK2"
1445, 1447, 1459, 1470, 1579, 1650, 1680, 1689, 1690, 1709, 1811, 1812, 2074 and 2662	(2)	Add ", SOLID" at the end
1577 (solid)	(1)	Replace "1577" with "3441"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
	(12)	Add "L4BH"
1578 (liquid)	(1)	Replace "1578" with "3409"
	(2)	Replace "liquid" with "LIQUID"
1578 (solid)	(2)	Replace "solid" with "SOLID"
1583 (PG I)	(6)	Add "315"
1590 (solid)	(1)	Replace "1590" with "3442"
	(10)	Add "T3"
	(11)	Add "TP33"
	(12)	Add "L4BH"
1597 (liquid)	(18)	Add "CV31"
1597 (solid)	(1)	Replace "1597" with "3443"
	(10)	Add "T3"
	(11)	Add "TP33"
1605	(8)	Replace "P601" with "P602"
1611	(10)	Add "T7"
	(11)	Add "TP2"
1656 (liquid or solution)	(2)	Amend the name to read as follows: "NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION"
	(18)	Add "CV31"
1656 (solid)	(1)	Replace "1656" with "3444"
	(2)	Replace "solid" with "SOLID"
	(9a)	Add "B4"
	(10)	Add "T3"
	(11)	Add "TP33"
1658 (solution)	(18)	Add "CV31"
1658 (solid)	(1)	Replace "1658" with "3445"
	(10)	Add "T3"
	(11)	Add "TP33"
1664 (solid)	(1)	Replace "1664" with "3446"
	(10)	Add "T3"
	(11)	Add "TP33"

UN Nos.	Column	Amendment
1665 (solid)	(1)	Replace "1665" with "3447"
	(10)	Add "T3"
	(11)	Add "TP33"
1693 (solid, PG I)	(1)	Replace "1693" with "3448"
	(10)	Add "T6"
	(11)	Add "TP9 TP33"
1693 (solid, PG II)	(1)	Replace "1693" with "3448"
	(10)	Add "T3"
	(11)	Add "TP33"
1694 (solid)	(1)	Replace "1694" with "3449"
	(10)	Replace "T14" with "T6"
	(11)	Replace "TP2 TP13" with "TP33"
	(12)	Add "L10CH"
1697	(2)	Add ", SOLID" at the end
	(3b)	Replace "T1" with "T2"
	(7)	Replace "LQ17" with "LQ18"
	(12)	Insert "SGAH" before "L4BH"
1699 (solid)	(1)	Replace "1699" with "3450"
	(10)	Add "T6"
	(11)	Add "TP33"
	(12)	Add "L10CH"
1701	(2)	Add ", LIQUID" at the end
1704	(8)	Replace "P002 IBC08" with "P001 IBC02"
	(9a)	Delete "B4"
	(10)	Add "T7"
	(11)	Add "TP2"
1708 (solid)	(1)	Replace "1708" with "3451"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
1711 (solid)	(1)	Replace "1711" with "3452"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
1729	(3)	Replace "C3" with "C4"
	(7)	"LQ22" with "LQ23"
	(8)	Replace "P001 IBC02" with "P002 IBC08"
	(9a)	Insert "B4"
	(9b)	Replace "MP15" with "MP10"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
	(12)	Insert "SGAN" before "L4BN"
	(16)	Insert "V11"

UN Nos.	Column	Amendment
1742	(2)	Add ", LIQUID" at the end
1743	(2)	Add ", LIQUID" at the end
1744	(9a)	Add "PP82"
1748	(6)	Add "313" and "314"
	(9a)	Add "B13"
	(18)	Add "CV35"
1793	(8)	Replace "IBC03" with "IBC02"
1805 (liquid)	(2)	Replace "LIQUID" with "SOLUTION"
1805 (solid)	(1)	Replace "1805" with "3453"
	(10)	Add "T1"
	(11)	Add "TP33"
	(12)	Add "SGAV L4BN"
	(14)	Add "AT"
1835	(2)	Add "SOLUTION" at the end
1843	(2)	Add ", SOLID" at the end
	(10)	Delete "T7"
	(11)	Delete TP2"
1938	(2)	Add "SOLUTION" at the end
1942	(10)	Add "BK1 BK2"
1963	(11)	Add "TP34"
1966	(11)	Add "TP34"
2003	Delete	
2005	(6)	Add "320"
2014	(9a)	Delete "PP29"
2038 (solid)	(1)	Replace "2038" with "3454"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
2067	(10)	Add "BK1 BK2"
2076 (solid)	(1)	Replace "2076" with "3455"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
2077	(10)	Replace "T3" with "T1"
	(11)	Replace "TP1" with "TP33"
2208	(6)	Add "313" and "314"
	(9a)	Add "B13"
	(18)	Add "CV35"
2213	(10)	Add "BK1 BK2"
2235	(2)	Add ", LIQUID" at the end
	(3b)	Replace "T2" with "T1"
	(7)	Replace "LQ9" with "LQ19"
	(9b)	Replace "MP10" with "MP15"
	(12)	Delete "SGAH"

UN Nos.	Column	Amendment
	(17)	Delete "VV9b"
2236	(2)	Add ", LIQUID" at the end
	(3b)	Replace "T2" with "T1"
	(7)	Replace "LQ18" with "LQ17"
	(9b)	Replace "MP10" with "MP15"
	(12)	Delete "SGAH"
2239 (liquid)	(1)	Replace "2239" with "3429"
	(2)	Replace "liquid" with "LIQUID"
2239 (solid)	(2)	Replace "solid" with "SOLID"
2261 (liquid)	(1)	Replace "2261" with "3430"
	(2)	Replace "liquid" with "LIQUID"
2261 (solid)	(2)	Replace "solid" with "SOLID"
2305	(10)	Add "T3"
	(11)	Add "TP33"
2306 (liquid)	(2)	Replace "liquid" with "LIQUID"
2306 (solid)	(1)	Replace "2306" with "3431"
	(2)	Replace "solid" with "SOLID"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
	(12)	Add "L4BH"
2308 (solid)	(1)	Replace "2308" with "3456"
	(10)	Replace "T8" with "T3"
	(11)	Replace "TP2 TP12" with "TP33"
	(12)	Add "L4BN"
2315	(2)	Add ", LIQUID" at the end
	(7)	Delete "LQ29"
2319	(6)	Delete "274"
2426	(12)	Replace "L4BV" with "L4BV(+)"
2433 (solid)	(1)	Replace "2433" with "3457"
	(10)	Add "T1"
	(11)	Add "TP33"
	(12)	Add "L4BH"
2445	(2)	Add ", LIQUID" at the end
	(6)	Add "320"
2446 (liquid)	(1)	Replace "2446" with "3434"
	(2)	Replace "liquid" with "LIQUID"
2446 (solid)	(2)	Replace "solid" with "SOLID"
2511 (solution)	(2)	Delete ", SOLUTION"
2511 (solid)	Delete	
2552	(2)	Add ", LIQUID" at the end
2669 (liquid)	(2)	Replace "liquid" with "SOLUTION"

UN Nos.	Column	Amendment
2669 (solid)	(1)	Replace "2669" with "3437"
	(2)	Replace "solid" with "SOLID"
	(10)	Replace "T7" with "T3"
	(11)	Replace "TP2" with "TP33"
2729	(10)	Add "T1"
	(11)	Add "TP33"
2730 (solid)	(1)	Replace "2730" with "3458"
	(10)	Replace "T4" with "T1"
	(11)	Replace "TP1" with "TP33"
2732 (solid)	(1)	Replace "2732" with "3459"
	(10)	Replace "T4" with "T1"
	(11)	Replace "TP1" with "TP33"
2753 (solid)	(1)	Replace "2753" with "3460"
	(10)	Replace "T7" with "T1"
	(11)	Replace "TP1" with "TP33"
2810 (PG I)	(6)	Add "315"
2813 (all entries)	(9a)	Add "PP83"
2814 (risk groups 3 and 4)	(2)	Delete "(risk groups 3 and 4)"
	(6)	Replace "274" with "318"
2814 (risk group 2)	Delete	
2823	(8)	Replace "P001 IBC03 LP01 R001" with "P002 IBC08 LP02 R001"
2857	(2)	Amend the name to read as follows: "REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)"
2880	(6)	Add "313" and "314"
	(9a)	Add "B13"
	(18)	Add "CV35"
2900 (risk groups 3 and 4)	(2)	Delete "(risk groups 3 and 4)"
	(6)	Replace "274" with "318"
	(10)	Add "BK1 BK2"
2900 (risk group 2)	Delete	
2912	(17)	Add "VV16"
2913	(17)	Add "VV17"
	(20)	Add "70"
2915, 2916, 2917 and 2919	(20)	Add "70"
2927 (PG I)	(6)	Add "315"
2929 (PG I)	(6)	Add "315"
2937	(2)	Add ", LIQUID" at the end
2950	(10)	Add "BK2"
2969	(10)	Add "BK1 BK2"
2977 and 2978	(20)	Add "78"
3049	Delete	

UN Nos.	Column	Amendment
3050	Delete	
3051	(6)	Add "320"
3052 (liquid)	(6)	Add "320"
	(11)	Add "TP9"
3052 (solid)	(1)	Replace "3052" with "3461"
	(6)	Add "320"
	(10)	Add "T21"
	(11)	Add "TP7 TP33"
3053	(6)	Add "320"
3076	(6)	Add "320"
3077	(12)	Add "LGBV"
3082	(7)	Replace "LQ28" with "LQ7"
3090 and 3091	(8)	Add "P903b"
3122 (PG I)	(6)	Add "315"
3123 (PG I)	(6)	Add "315"
3149	(9a)	Add "PP10"
3151	(7)	Delete "LQ29"
	(17)	Add "VV15"
3152	(17)	Add "VV15"
3170 (all entries)	(10)	Add "BK1 BK2"
3172 (solid, PG I)	(1)	Replace "3172" with "3462"
	(10)	Add "T6"
	(11)	Add "TP9 TP33"
3172 (solid, PG II)	(1)	Replace "3172" with "3462"
	(10)	Add "T3"
	(11)	Add "TP33"
3172 (solid, PG III)	(1)	Replace "3172" with "3462"
	(10)	Add "T1"
	(11)	Add "TP33"
3175	(10)	Add "BK1 BK2"
3176 (all entries)	(11)	Delete "TP9"
3203 (all entries)	Delete	
3207 (all entries)	Delete	
3243	(10)	Add "BK1 BK2"
3244	(10)	Add "BK1 BK2"
3256	(13)	Add "TE24"
3257	(13)	Insert "TE6" and "TE24"
3275 (PG I)	(6)	Add "315"
3276 (all entries)	(2)	Amend the name to read as follows: "NITRILES, TOXIC, LIQUID, N.O.S".
3276 (PG I)	(6)	Add "315"

UN Nos.	Column	Amendment
3278 (liquid, all entries)	(2)	Amend the name to read as follows: "ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S"
3278 (liquid, PG I)	(6)	Add "315"
3278 (solid, PG I)	(1)	Replace "3278" with "3464"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T14" with "T6"
	(11)	Replace "TP2 TP9 TP27" with "TP9 TP33"
3278 (solid, PG II)	(1)	Replace "3278" with "3464"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T11" with "T3"
	(11)	Replace "TP2 TP27" with "TP33"
3278 (solid, PG III)	(1)	Replace "3278" with "3464"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T7" with "T1"
	(11)	Replace "TP1 TP28" with "TP33"
3279 (PG I)	(6)	Add "315"
3280 (liquid, all entries)	(2)	Amend the name to read as follows: "ORGANOARSENIC COMPOUND, LIQUID, N.O.S"
3280 (liquid, PG I)	(6)	Add "315"
3280 (solid, PG I)	(1)	Replace "3280" with "3465"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T14" with "T6"
	(11)	Replace "TP2 TP9 TP27" with "TP9 TP33"
3280 (solid, PG II)	(1)	Replace "3280" with "3465"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T11" with "T3"
	(11)	Replace "TP2 TP27" with "TP33"
3280 (solid, PG III)	(1)	Replace "3280" with "3465"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T7" with "T1"
	(11)	Replace "TP1 TP28" with "TP33"
3281 (liquid, all entries)	(2)	Amend the name to read as follows: "METAL CARBONYLS, LIQUID, N.O.S"
3281 (liquid, PG I)	(6)	Add "315"
3281 (solid, PG I)	(1)	Replace "3281" with "3466"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T14" with "T6"
	(11)	Replace "TP2 TP9 TP27" with "TP9 TP33"
3281 (solid, PG II)	(1)	Replace "3281" with "3466"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T11" with "T3"
	(11)	Replace "TP2 TP27" with "TP33"

UN Nos.	Column	Amendment
3281 (solid, PG III)	(1)	Replace "3281" with "3466"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T7" with "T1"
	(11)	Replace "TP1 TP28" with "TP33"
3282 (liquid, all entries)	(2)	Amend the name to read as follows: "ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S"
3282 (solid, PG I)	(1)	Replace "3282" with "3467"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T14" with "T6"
	(11)	Replace "TP2 TP9 TP27" with "TP9 TP33"
3282 (solid, PG II)	(1)	Replace "3282" with "3467"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T11" with "T3"
	(11)	Replace "TP2 TP27" with "TP33"
3282 (solid, PG III)	(1)	Replace "3282" with "3467"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
	(10)	Replace "T7" with "T1"
	(11)	Replace "TP1 TP28" with "TP33"
3283 (all entries)	(2)	Amend the name to read as follows: "SELENIUM COMPOUND, SOLID, N.O.S"
3287 (PG I)	(6)	Add "315"
3289 (PG I)	(6)	Add "315"
3295 (all entries)	(6)	Delete "274"
3315	(2)	Delete ", liquid or solid"
3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332 and 3333	(20)	Add "70"
3372 (all entries)	Delete	
3373	(2)	Amend the name to read as follows: "DIAGNOSTIC SPECIMENS or CLINICAL SPECIMENS"
	(6)	Add "319"
	(12)	Add "L4BH"
	(13)	Add "TU15 TU37 TE15 TE19"
	(14)	"AT"
	(19)	Add "S3"
	(20)	Add "606"
3375 (all entries)	(6)	Delete "306"
	(10)	Add "T1"
	(11)	Add "TP1", "TP9", "TP17" and "TP32"
	(12)	Add "LGAV (+)" for the liquid entry and "SGAV(+)" for the solid entry

UN Nos.	Column	Amendment
	(13)	Add "TU3, TU12, TU26, TU39, TE10, TE23, TA1, TA3"
	(14)	Add "AT"
	(20)	Add "50"

Add the following new entries:

*(**Note**: When two UN numbers appear in column (1) of the table below, the number in italics corresponds to a current entry in the Table A for the same substance in solid, liquid or solution state and is given only for reference.).*

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1267	PETROLEUM CRUDE OIL (vapour pressure at 50 ºC not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	P001		MP7 MP17	T11	TP1 TP8	L1.5BN		FL	1				S2 S20	33
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 ºC not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	P001		MP7 MP17	T11	TP1 TP8 TP9	L1.5BN		FL	1				S2 S20	33
1597	DINITROBENZENES LIQUID	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28 CV31	S9	60
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	T1	III	6.1	43	LQ19	P001 IBC03 LP01 R001		MP15			L4BH	TU15 TE15 TE19	AT	2			CV13 CV28 CV31	S9	60
1658	NICOTINE SULPHATE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28 CV31	S9	60

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1	O2	III	5.1	316 589	LQ12	P002 IBC08 R001	B4	MP10			SGAV	TU3	AT	3			CV24 CV35		50
1835	TETRAMETHYL-AMMONIUM HYDROXIDE SOLUTION	8	C7	III	8		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2	L4BN		AT	3					80
1938	BROMOACETIC ACID SOLUTION	8	C3	III	8		LQ19	P001 IBC02 LP01 R001		MP15	T7	TP2	L4BN		AT	3					80
2669	CHLOROCRESOLS SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water	5.1	O2	III	5.1	316	LQ12	P002 IBC08 R001	B4	MP10			SGAV	TU3	AT	3		VV8	CV24 CV35		50

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3295	HYDROCARBONS LIQUID N.O.S. (vapour pressure at 50 ºC not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	P001		MP7 MP17	T11	TP1 TP8 TP9 TP28	L1.5BN		FL	1				S2 S20	33
3377	SODIUM PERBORATE MONOHYDRATE	5.1	O2	III	5.1		LQ12	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	AT	3		VV8	CV24		50
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	II	5.1		LQ11	P002 IBC08	B4	MP10	T3 BK1 BK2	TP33	SGAV	TU3	AT	2	V11	VV8	CV24		50
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	III	5.1		LQ12	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	AT	3		VV8	CV24		50
3379	DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.	3	D	I	3	274 311	LQ0	P099		MP2						1				S2 S20	
3380	DESENSITIZED EXPLOSIVE, SOLID, N.O.S.	4.1	D	I	4.1	274 311	LQ0	P099		MP2						1				S17	

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3381	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	T1 or T4	I	6.1	274	LQ0	P601		MP8 MP17	T22	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	66
3382	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	T1 or T4	I	6.1	274	LQ0	P602		MP8 MP17	T20	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	66
3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	TF1	I	6.1 +3	274	LQ0	P601		MP8 MP17	T22	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	FL	1			CV1 CV13 CV28	S2 S9 S17	663

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	TF1	I	6.1 +3	274	LQ0	P602		MP8 MP17	T20	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	FL	1			CV1 CV13 CV28	S2 S9 S17	663
3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	TW1	I	6.1 +4.3	274	LQ0	P601		MP8 MP17	T22	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	623
3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	TW1	I	6.1 +4.3	274	LQ0	P602		MP8 MP17	T20	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	623

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	TO1	I	6.1 +5.1	274	LQ0	P601		MP8 MP17	T22	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	665
3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	TO1	I	6.1 +5.1	274	LQ0	P602		MP8 MP17	T20	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	665
3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m^3 and saturated vapour concentration greater than or equal to 500 LC_{50}	6.1	TC1 or TC3	I	6.1 +8	274	LQ0	P601		MP8 MP17	T22	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	668

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m^3 and saturated vapour concentration greater than or equal to 10 LC_{50}	6.1	TC1 or TC3	I	6.1 +8	274	LQ0	P602		MP8 MP17	T20	TP2 TP9	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	668
3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0	P404	PP86	MP2	T21	TP7 TP33	L21DH	TU4 TU14 TU22 TC1 TE21 TM1	AT	0	V1			S20	333
3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0	P400	PP86	MP2	T21	TP2 TP7	L21DH	TU4 TU14 TU22 TC1 TE21 TM1	AT	0	V1			S20	333
3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE	4.2	SW	I	4.2 +4.3	274	LQ0	P404	PP86	MP2	T21	TP7 TP33	L21DH	TU4 TU14 TU22 TC1 TE21 TM1	AT	0	V1			S20	X333

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE	4.2	SW	I	4.2 +4.3	274	LQ0	P400	PP86	MP2	T21	TP2 TP7	L21DH	TU4 TU14 TU22 TC1 TE21 TM1	AT	0	V1			S20	X333
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	I	4.3	274	LQ0	P403		MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TE21 TM2	AT	1	V1		CV23	S20	X423
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	II	4.3	274	LQ11	P410 IBC04		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	AT	2	V1		CV23		423
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	III	4.3	274	LQ12	P410 IBC06		MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	AT	3	V1		CV23		423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	I	4.3 +4.1	274	LQ0	P403		MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TE21 TM2	AT	0	V1		CV23		X423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	II	4.3 +4.1	274	LQ11	P410 IBC04		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	AT	0	V1		CV23		423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	III	4.3 +4.1	274	LQ12	P410 IBC06		MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	AT	0	V1		CV23		423

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	I	4.3 +4.2	274	LQ0	P403		MP2	T9	TP7 TP33	S10AN L10DH	TU14 TE21 TM2	AT	1	V1		CV23	S20	X423
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	II	4.3 +4.2	274	LQ11	P410 IBC04		MP14	T3	TP33	SGAN L4DH		AT	2	V1		CV23		423
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	III	4.3 +4.2	274	LQ12	P410 IBC06		MP14	T1	TP33	SGAN L4DH		AT	3	V1		CV23		423
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	I	4.3	274	LQ0	P402		MP2	T13	TP2 TP7	L10DH	TU4 TU14 TU22 TE21 TM2	AT	0	V1		CV23	S20	X323
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	II	4.3	274	LQ10	P001 IBC01		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	AT	0	V1		CV23		323
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	III	4.3	274	LQ13	P001 IBC02		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	AT	0	V1		CV23		323
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	I	4.3 +3	274	LQ0	P402		MP2	T13	TP2 TP7	L10DH	TU4 TU14 TU22 TE21 TM2	FL	0	V1		CV23	S2 S20	X323

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	II	4.3 +3	274	LQ10	P001 IBC01		MP15	T7	TP2 TP7	L4DH	TU4 TU14 TU22 TE21 TM2	FL	0	V1		CV23	S2	323
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	III	4.3 +3	274	LQ13	P001 IBC02 R001		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	FL	0	V1		CV23	S2	323
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	S5	II	4.2	274	LQ18	P410 IBC06		MP14	T3	TP33	SGAN L4BN		AT	2	V1 V12				40
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	S5	III	4.2	274	LQ11	P002 IBC08		MP14	T1	TP33	SGAN L4BN		AT	3	V1				40
3401 *1389*	ALKALI METAL AMALGAM, SOLID	4.3	W2	I	4.3	182	LQ0	P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	AT	1	V1		CV23	S20	X423
3402 *1392*	ALKALINE EARTH METAL AMALGAM, SOLID	4.3	W2	I	4.3	183 506	LQ0	P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	AT	1	V1		CV23	S20	X423
3403 *1420*	POTASSIUM METAL ALLOYS, SOLID	4.3	W2	I	4.3		LQ0	P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	AT	1	V1		CV23	S20	X423

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3404 *1422*	POTASSIUM SODIUM ALLOYS, SOLID	4.3	W2	I	4.3		LQ0	P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	AT	1	V1		CV23	S20	X423
3405 *1445*	BARIUM CHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1		LQ10	P504 IBC02		MP2	T4	TP1	L4BN	TU3	AT	2			CV24 CV28		56
3405 *1445*	BARIUM CHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1		LQ13	P001 IBC02		MP2	T4	TP1	LGBV	TU3	AT	3			CV24 CV28		56
3406 *1447*	BARIUM PERCHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1		LQ10	P504 IBC02		MP2	T4	TP1	L4BN	TU3	AT	2			CV24 CV28		56
3406 *1447*	BARIUM PERCHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1		LQ13	P001 IBC02		MP2	T4	TP1	LGBV	TU3	AT	3			CV24 CV28		56
3407 *1459*	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	II	5.1		LQ10	P504 IBC02		MP2	T4	TP1	L4BN	TU3	AT	2			CV24		50
3407 *1459*	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	III	5.1		LQ13	P504 IBC02		MP2	T4	TP1	LGBV	TU3	AT	3			CV24		50
3408 *1470*	LEAD PERCHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1		LQ10	P504 IBC02		MP2	T4	TP1	L4BN	TU3	AT	2			CV24 CV28		56
3408 *1470*	LEAD PERCHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1		LQ13	P001 IBC02		MP2	T4	TP1	LGBV	TU3	AT	3			CV24 CV28		56

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3410 *1579*	4-CHLORO-o-TOLUIDINE HYDROCHLORIDE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3411 *1650*	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	II	6.1		LQ17	P001 IBC02		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60
3411 *1650*	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC02		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3413 *1680*	POTASSIUM CYANIDE SOLUTION	6.1	T4	I	6.1		LQ0	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	66
3413 *1680*	POTASSIUM CYANIDE SOLUTION	6.1	T4	II	6.1		LQ17	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60
3413 *1680*	POTASSIUM CYANIDE SOLUTION	6.1	T4	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2 TP28	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3414 *1689*	SODIUM CYANIDE SOLUTION	6.1	T4	I	6.1		LQ0	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	66
3414 *1689*	SODIUM CYANIDE SOLUTION	6.1	T4	II	6.1		LQ17	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3414 *1689*	SODIUM CYANIDE SOLUTION	6.1	T4	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T7	TP2 TP28	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3415 *1690*	SODIUM FLUORIDE SOLUTION	6.1	T4	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3416 *1697*	CHLOROACETO-PHENONE, LIQUID	6.1	T1	II	6.1		LQ17	P001 IBC02		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60
3417 *1701*	XYLYL BROMIDE, SOLID	6.1	T2	II	6.1		LQ18	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2	V11		CV13 CV28	S9 S19	60
3418 *1709*	2,4-TOLUYLENE-DIAMINE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3419 *1742*	BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		AT	2	V11				80
3420 *1743*	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		AT	2	V11				80
3421 *1811*	POTASSIUM HYDROGENDI-FLUORIDE SOLUTION	8	CT1	II	8 +6.1		LQ22	P001 IBC02		MP15	T7	TP2	L4DH	TU14 TE21	AT	2			CV13 CV28		86

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3421 *1811*	POTASSIUM HYDROGENDI-FLUORIDE SOLUTION	8	CT1	III	8 +6.1		LQ19	P001 IBC03 R001		MP15	T4	TP1	L4DH	TU14 TE21	AT	3			CV13 CV28		86
3422 *1812*	POTASSIUM FLUORIDE SOLUTION	6.1	T4	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3423 *1835*	TETRAMETHYL-AMMONIUM HYDROXIDE, SOLID	8	C8	II	8		LQ24	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		AT	2	V11				80
3424 *1843*	AMMONIUM DINITRO-o-CRESOLATE SOLUTION	6.1	T1	II	6.1		LQ17	P001 IBC02		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60
3424 *1843*	AMMONIUM DINITRO-o-CRESOLATE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC02		MP15	T7	TP2	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3425 1938	BROMOACETIC ACID, SOLID	8	C4	II	8		LQ23	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		AT	2	V11				80
3426 *2074*	ACRYLAMIDE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3427 *2235*	CHLOROBENZYL CHLORIDES, SOLID	6.1	T2	III	6.1		LQ9	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2		VV9b	CV13 CV28	S9	60

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3428 *2236*	3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID	6.1	T2	II	6.1		LQ18	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2	V11		CV13 CV28	S9 S19	60
3432 *2315*	POLY-CHLORINATED BIPHENYLS, SOLID	9	M2	II	9	305	LQ25	P906 IBC08		MP10	T3	TP33	S4AH L4BH	TU15 TE15	AT	0		VV15	CV1 CV13 CV28	S19	90
3433 *2445*	LITHIUM ALKYLS, SOLID	4.2	SW	I	4.2 +4.3	320	LQ0	P400		MP2	T21	TP7 TP33	L21DH	TU4 TU14 TU22 TC1 TE21 TM1	AT	0	V1			S20	X333
3435 *2662*	HYDROQUINONE SOLUTION	6.1	T1	III	6.1		LQ19	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3436 *2552*	HEXAFLUORO-ACETONE HYDRATE, SOLID	6.1	T2	II	6.1		LQ18	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2	V11		CV13 CV28	S9 S19	60
3438 *2937*	alpha-METHYL-BENZYL ALCOHOL, SOLID	6.1	T2	III	6.1		LQ9	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2		VV9b	CV13 CV28	S9	60
3439 *3276*	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	I	6.1	274	LQ0	P002 IBC07		MP18	T6	TP9 TP33	S10AH L10CH	TU14 TU15 TE19 TE21	AT	1	V10 V12		CV1 CV13 CV28	S9 S17	66
3439 *3276*	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	II	6.1	274	LQ18	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2	V11		CV13 CV28	S9 S19	60

UN No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Packagings			UN Portable tanks and bulk containers		ADR tank		Vehicle for tank carriage	Transport category	Special provisions for carriage				Hazard identification No.
								Packing instruction	Special packing provisions	Mixed packing provisions	Portable tank instruction	Portable tank special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling	Operation	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3439 *3276*	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	III	6.1	274	LQ9	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15 TE15 TE19	AT	2		VV9b	CV13 CV28	S9	60
3440 *3283*	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	I	6.1	563	LQ0	P001		MP8 MP17	T14	TP2 TP9 TP27	L10CH	TU14 TU15 TE19 TE21	AT	1			CV1 CV13 CV28	S9 S17	66
3440 *3283*	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	II	6.1	563	LQ17	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9 S19	60
3440 *3283*	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	III	6.1	563	LQ19	P001 IBC03 R001		MP15	T7	TP1 TP28	L4BH	TU15 TE15 TE19	AT	2			CV13 CV28	S9	60
3468	HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM	2	1F		2.1	321	LQ0	P099		MP9						2			CV9 CV10 CV36	S2 S20	

Amend or assign the tank instructions for solids according to the following rationalized approach:

- Substances of **Class 4.1**, **packing group I**: Tank instruction: **not authorized**.
  (Apply to all UN Nos. in this group).

- Substances of **Class 4.1**, **packing group II**: Tank instruction: **T3**; Tank provision: **TP33**
  (Apply to UN Nos.: 1309, 1323, 1325 (replace "TP1" with "TP33"), 1326, 1339, 1341, 1343, 1345, 1352, 1358, 1437, 1868, 1871, 2925, 2926, 2989, 3089, 3175, 3178, 3179, 3180, 3181, 3182, 3242).

- Substances of **Class 4.1**, **packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
  (Apply to UN Nos.: 1309,1312, 1313, 1314, 1318, 1325 (replace "TP1" with "TP33"), 1328, 1330, 1332, 1334, 1338, 1346, 1350 (replace "TP1" with "TP33"), 1869, 2001, 2213, 2538, 2687, 2714, 2715, 2717, 2878, 2925, 2926, 2989, 3089, 3178, 3179, 3180, 3181, 3182).

- Substances of **Class 4.2**, **packing group I**: Tank instruction: **T21**; Tank provision: **TP7 TP33**
  (Apply to UN Nos. 1383, 1854, 2005, 2008, 2870 (1st entry), 2881, 3200, 3254).

- Substances of **Class 4.2**, **packing group II**: Tank instruction: **T3**; Tank provision: **TP33**
  (Apply to UN Nos. 1361, 1369, 1374, 1378, 1382, 1384, 1385, 1431, 1923, 1929, 2004, 2008, 2318, 2545, 2546, 2881, 2940, 3088, 3126, 3128, 3189, 3190, 3191, 3192, 3205, 3206, 3313, 3341, 3342).

- Substances of **Class 4.2**, **packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
  (Apply to UN Nos.:1361, 1362, 1373, 1376, 1932, 2008, 2210, 2545, 2546, 2881, 3088, 3126, 3128, 3174, 3189, 3190, 3191, 3192, 3205, 3206, 3313, 3341, 3342).

- Substances of **Class 4.3**, **labels "4.3+6.1"**, **packing group I**: Tank Instruction: **Not authorized**
  (Apply to all UN Nos. in this group).

- Substances of **Class 4.3**, **packing group I**: Tank instruction: **T9,** Tank provision: **TP7 TP33**
  (Apply to UN Nos.: 1402, 1428 (replace "TP3 TP7 TP31" with "TP7 TP33") and 2257 (replace "TP3 TP7 TP31" with " TP7 TP33")).

- Substances of **Class 4.3**, **packing group II**: Tank instruction: **T3,** Tank provision: **TP33**
  (Apply to UN Nos.: 1340, 1390, 1393, 1394, 1395, 1396, 1400, 1401, 1402, 1405, 1409, 1417, 1418, 1436, 2624, 2805, 2813, 2830, 2835, 3078, 3131, 3134, 3170, 3208, 3209).

- Substances of **Class 4.3**, **packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
  (Apply to UN Nos.: 1396, 1398, 1403, 1405, 1408, 1418, 1435, 1436, 2813, 2844, 2950, 2968, 3131, 3134, 3170, 3208, 3209).

- Substances of **Class 5.1**, **packing group I**: Tank instruction: **not authorized**.
  (Apply to all UN Nos. in this group).

- Substances of **Class 5.1**, **packing group II**: Tank instruction: **T3,** Tank provision: **TP33**
  (Apply to UN Nos.: 1439, 1442, 1445 (replace "T4" with "T3" and "TP1" with "TP33"), 1446, 1447 (replace "T4" with "T3" and "TP1" with "TP33"), 1448, 1449, 1450, 1452, 1453, 1455, 1456, 1457, 1458, 1459 (replace "T4" with "T3" and "TP1" with "TP33", 1461, 1462, 1463, 1469, 1470 (replace "T4" with "T3" and "TP1" with "TP33"), 1472, 1473, 1475, 1476, 1477,

1479, 1481, 1482, 1483, 1484, 1485, 1487, 1488, 1489, 1490, 1493, 1494, 1495, 1496, 1502, 1503, 1506, 1508, 1509, 1512, 1513, 1514, 1515, 1516, 2464, 2465, 2468, 2573, 2626, 2627, 2719, 2721, 2723, 2741, 3085, 3087, 3212, 3247).

- Substances of **Class 5.1**, **packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
(Apply to UN Nos.: 1438, 1444, 1451, 1454, 1458, 1459 (replace "T4" with "T1" and "TP1" with "TP33"), 1465, 1466, 1467, 1474, 1477, 1479, 1481, 1482, 1483, 1486, 1492, 1498, 1499, 1500, 1505, 1507, 1511, 1872, 1942, 2067, 2469, 2720, 2722, 2724, 2725, 2726, 2728, 3085, 3087, 3215).

- Substances of **Class 5.2**: Tank instruction: **T23,** Tank provision: **TP33**
(Apply to UN Nos. 3110, 3120).

- Substances of **Class 6.1, packing group I**: Tank instruction: **T6,** Tank provision: **TP33**
(Apply to UN Nos.: 1544, 1557, 1565, 1570, 1575, 1588, 1601, 1626, 1655, 1680 (replace "T14" with "T6" and "TP2" with "TP33"), 1689 (replace "T14" with "T6" and "TP2" with "TP33"), 1692, 1698, 1713, 1889, 2025, 2026, 2316, 2471, 2570, 2588, 2628, 2629, 2630, 2642, 2757, 2759, 2761, 2763, 2771, 2775, 2777, 2779, 2781, 2783, 2786, 2811, 2928, 2930, 3027, 3048, 3086, 3124, 3125, 3143, 3146, 3283 (replace "T14" with "T6" and "TP2 TP9 TP27" with "TP9 TP33"), 3284 (replace "T14" with "T6" and "TP2 TP9 TP27" with "TP9 TP33"), 3285 (replace "T14" with "T6" and "TP2 TP9 TP27" with "TP9 TP33"), 3288, 3290, 3345, 3349).

- Substances of **Class 6.1, packing group II**: Tank instruction: **T3,** Tank provision: **TP33**
(Apply to UN Nos. 1544, 1546, 1554, 1555, 1557, 1558, 1559, 1561, 1562, 1564, 1566, 1567, 1569 (replace "T10" with "T3" and "TP2" with "TP33"), 1572, 1573, 1574, 1578 (replace "T7" with "T3" and "TP2" with "TP33"), 1585, 1586, 1587, 1588, 1596 (replace "T7" with "T3" and "TP2" with "TP33"), 1598 (replace "T7" with "T3" and "TP2" with "TP33"), 1601, 1606, 1607, 1608, 1617, 1618, 1620, 1621, 1622, 1623, 1624, 1625, 1627, 1629, 1630, 1631, 1634, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1650 (replace "T7" with "T3" and "TP2" with "TP33"), 1651, 1652, 1653, 1655, 1657, 1659, 1661 (replace "T7" with "T3" and "TP2" with "TP33"), 1671 (replace "T6" with "T3" and "TP2" with "TP33"), 1674, 1677, 1678, 1679, 1683, 1684, 1685, 1688, 1691, 1697 (replace "T7" with "T3" and "TP2" with "TP33"), 1707, 1712, 1751, 1843, 1885, 1894, 1895, 2018 (replace "T7" with "T3" and "TP2" with "TP33"), 2025, 2026, 2027, 2250 (replace "T7" with "T3" and "TP2" with "TP33"), 2261 (replace "T7" with "T3" and "TP2" with "TP33"), 2567, 2570, 2587, 2588, 2645, 2647, 2649, 2657, 2671, 2673, 2727, 2757, 2759, 2761, 2763, 2771, 2775, 2777, 2779, 2781, 2783, 2786, 2811, 2859, 2861, 2863, 2864, 2928, 2930, 2931, 3027, 3086, 3124, 3125, 3143, 3146, 3155, 3243, 3249, 3283 (replace "T11" with "T3" and "TP2 TP27" with "TP33"), 3284(replace "T11" with "T3" and "TP2 TP27" with "TP33"), 3285 (replace "T11" with "T3" and "TP2 TP27" with "TP33"), 3288, 3290, 3345, 3349).

- Substances of **Class 6.1, packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
(Apply to UN Nos. 1544, 1548, 1549, 1550, 1551, 1557, 1564, 1566, 1579 (replace "T4" with "T1" and "TP1" with "TP33"), 1588, 1601, 1616, 1655, 1663 (replace "T4" with "T1" and "TP3" with "TP33"), 1673 (replace "T7" with "T1" and "TP1" with "TP33"), 1690 (replace "T4" with "T1" and "TP1" with "TP33"), 1709 (replace "T4" with "T1" and "TP1" with "TP33"), 1812 (replace "T4" with "T1" and "TP1" with "TP33"), 1884, 2020, 2025, 2026, 2074 (replace "T4" with "T1" and "TP1" with "TP33"), 2233, 2237, 2239 (replace "T4" with "T1" and "TP1" with "TP33"), 2291, 2446, 2473, 2505, 2512, 2516, 2570, 2588, 2651 (replace "T4" with "T1" and "TP1" with "TP33"), 2655, 2659, 2660, 2662 (replace "T4" with "T1" and "TP1" with "TP33"), 2674, 2713, 2716, 2729, 2757, 2759, 2761, 2763, 2771, 2775, 2777, 2779, 2781,

2783, 2786, 2811, 2853, 2854, 2855, 2856, 2862, 2871, 2875, 2876, 3027, 3143, 3146, 3249, 3283 (replace "T7" with "T1"and "TP1 TP28" with "TP33"), 3284 (replace "T7" with "T1" and "TP1 TP28" with "TP33"), 3285 (replace "T7" with "T1" and "TP1 TP28" with "TP33"), 3288, 3345, 3349).

- Substances of **Class 8, packing group I**: Tank instruction: **T6,** Tank provision: **TP33**
  (Apply to UN Nos. 1759, 1905, 2430 (replace "T10" with "T1" and "TP2 TP9 TP28" with "TP9 TP33"), 2921, 2923, 3084, 3095, 3096, 3147, 3259, 3260, 3261, 3262, 3263).

- Substances of **Class 8, packing group II**: Tank instruction: **T3,** Tank provision: **TP33**
  (Apply to UN Nos. 1725, 1726, 1727, 1740, 1756, 1759, 1770, 1794, 1806, 1807, 1811 (replace "T7" with "T3" and "TP2" with "TP33"), 1813, 1823, 1825, 1839, 1847, 1849 (replace "T7" with "T3" and "TP2" with "TP33"), 1939 (replace "T7" with "T3" and "TP2" with "TP33"), 2033, 2430 (replace "TP2" with "TP33"), 2439, 2506, 2509, 2583, 2670, 2678, 2680, 2682, 2691, 2869, 2921, 2923, 3084, 3095, 3096, 3147, 3244, 3259, 3260, 3261, 3262, 3263).

- Substances of **Class 8, packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
  (Apply to UN Nos.: 1740, 1759, 1773, 1907, 2214 (replace "T4" with "T1" and "TP3" with "TP33"), 2215 (replace "T4" with "T1" and "TP1" with "TP33"), 2280 (replace "T4" with "T1" and "TP3" with "TP33"), 2331, 2430 (replace "T3" with "T1" and "TP1" with "TP33"), 2440, 2475, 2503, 2507, 2508, 2578, 2579 (replace "T4" with "T1" and "TP1 TP30" with "TP33"), 2585, 2698, 2802, 2803, 2823 (replace "T4" with "T1" and "TP1" with "TP33"), 2834 (replace "T3" with "T1" and "TP1" with "TP33"), 2865, 2869, 2905, 2923, 2967, 3147, 3253, 3259, 3260, 3261, 3262, 3263).

- Substances of **Class 9, packing group II**: Tank instruction: **T3,** Tank provision: **TP33**
  (Apply to UN Nos.: 2212, 2969, 3152).

- Substances of **Class 9, packing group III**: Tank instruction: **T1,** Tank provision: **TP33**
  (Apply to UN Nos.: 1841, 1931, 2211, 2590, 3077).

In table A, assign "TP9" to all N.O.S, packing group I entries, of Classes 4.2, 6.1 and 8, having a "T" code in column (10).

Chapter 3.3

Amend the following special provisions as follows:

SP172 Replace "5.4.1.2.5.1 (e)" with "5.4.1.2.5.1 (b)".

SP203 Replace the existing text with the following:
"This entry shall not be used for polychlorinated biphenyls, liquid, UN No. 2315 and polychlorinated biphenyls, solid, UN No. 3432.".

SP215 Add the following text at the end:
"Homogeneous mixtures containing not more than 35 % by mass of azodicarbonamide and at least 65 % of inert substance are not subject to the requirements of ADR unless criteria of other classes are met.".

SP219 Amend to read as follows:

"Genetically modified micro-organisms and genetically modified organisms which meet the definition of an infectious substance and the criteria for inclusion in Class 6.2 in accordance with section 2.2.62 shall be carried as UN No. 2814, UN No. 2900 or UN No. 3373, as appropriate.".

SP290 At the end, delete "and 5.4.1.2.5.1 (a)".

SP296 Replace the existing text with the following:
"These entries apply to life-saving appliances such as life rafts, personal flotation devices and self-inflating slides. UN No. 2990 applies to self-inflating appliances and UN No. 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain:

(a) Signal devices (Class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated;

(b) For UN No. 2990 only, cartridges, power device of Division 1.4, compatibility group S, may be contained for purposes of the self-inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2 g;

(c) Class 2 compressed gases, group A or O, according to 2.2.2.1.3;

(d) Electric storage batteries (Class 8) and lithium batteries (Class 9);

(e) First aid kits or repair kits containing small quantities of dangerous goods (e.g.: substances of Class 3, 4.1, 5.2, 8 or 9); or

(f) "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated.".

SP309 Amend the last sentence to read as follows:
"These substances shall pass Test Series 8 of the *Manual of Tests and Criteria*, Part I, Section 18.".

SP513 Replace the fourth sentence with the following:
"UN No. 1445 barium chlorate, solid, UN No. 1446 barium nitrate, UN No. 1447 barium perchlorate, solid, UN No. 1448 barium permanganate, UN No. 1449 barium peroxide, UN No. 2719 barium bromate, UN No. 2741 barium hypochlorite with more than 22% available chlorine, UN No. 3405 barium chlorate, solution and UN No. 3406 barium perchlorate, solution, are substances of Class 5.1."

SP517 Amend to read as follows:
"UN No. 1690 sodium fluoride, solid, UN No. 1812 potassium fluoride, solid, UN No. 2505 ammonium fluoride, UN No. 2674 sodium fluorosilicate, UN No. 2856 fluorosilicates, n.o.s., UN No. 3415 sodium fluoride, solution and UN No. 3422 potassium fluoride, solution, are substances of Class 6.1."

SP527 Delete.

SP535 Amend to read as follows:
"UN No. 1469 lead nitrate, UN No. 1470 lead perchlorate, solid and UN No. 3408 lead perchlorate, solution, are substances of Class 5.1."

SP636 Amend subparagraph (a), to read as follows:
"(a) Used lithium cells and batteries collected and presented for carriage for disposal between the consumer collecting point and the intermediate processing facility, together with other non-lithium cells or batteries or alone, are not subject to the other provisions of ADR if they meet the following conditions:

(i) The gross mass of each lithium cell or battery does not exceed 250 g;

(ii) The provisions of packing instruction P903b (2) are complied with;".

Delete sub-paragraph (d).

SP640 Amend to read as follows:
"The physical and technical characteristics mentioned in column (2) of Table A of Chapter 3.2 determine different tank codes for the carriage of substances of the same packing group in ADR tanks.

In order to identify these physical and technical characteristics of the product carried in the tank, the following shall be added, to the particulars required in the transport document, only in case of carriage in ADR tanks:

"Special provision 640X" where "X" is the applicable capital letter appearing after the reference to special provision 640 in column (6) of Table A of Chapter 3.2.

These particulars may, however, be dispensed with in the case of carriage in the type of tank which, for substances of a specific packing group of a specific UN number, meets at least the most stringent requirements.".

Add the following new special provisions:

"**201** Lighters and lighter refills shall comply with the provisions of the country in which they were filled. They shall be provided with protection against inadvertent discharge. The liquid portion of the gas shall not exceed 85% of the capacity of the receptacle at 15 °C. The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at 55 °C. The valve mechanisms and ignition devices shall be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during carriage. Lighters shall not contain more than 10 g of liquefied petroleum gas. Lighter refills shall not contain more than 65 g of liquefied petroleum gas.

243 Gasoline, motor spirit and petrol for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.

311 Substances shall not be carried under this entry unless approved by the competent authority on the basis of the results of appropriate tests according to Part I of the *Manual of Tests and Criteria*. Packaging shall ensure that the percentage of diluent does

not fall below that stated in the competent authority approval, at any time during carriage.

313 Substances and mixtures meeting the criteria for Class 8 shall bear a subsidiary risk label conforming to model No. 8 (see 5.2.2.2.2).

314 (a) These substances are liable to exothermic decomposition at elevated temperatures. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds);

(b) During the course of carriage, these substances shall be shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas.

315 This entry shall not be used for Class 6.1 substances which meet the inhalation toxicity criteria for packing group I described in 2.2.61.1.8.

316 This entry applies only to calcium hypochlorite, dry or hydrated, when carried in non friable tablet form.

317 "Fissile-excepted" applies only to those packages complying with 6.4.11.2.

318 For the purposes of documentation, the proper shipping name shall be supplemented with the technical name (see 3.1.2.8). When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in category A and assignment to UN No. 2814 or 2900, the words "suspected category A infectious substance" shall be shown, in parentheses, following the proper shipping name on the transport document.

319 This entry applies to human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluids, and body parts being carried for purposes such as research, diagnosis, investigational activities, disease treatment or prevention. Substances packed and packages which are marked in accordance with packing instruction P650 are not subject to any other requirements of ADR.

320 It is intended that this entry will be deleted from ADR on 1 January 2007. Irrespective of 2.1.2, in the interim period, this entry or the appropriate generic entry may be used.

321 These storage systems shall always be considered as containing hydrogen.

648 Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR.

649 To determine the initial boiling point, as mentioned under 2.2.3.1.3 packing group I, the test method according to standard ASTM D86-01[2] is suitable.

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[2] *Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure, published September 2001 by ASTM International, 100 Barr Harbor Drive, Po Box C700, West Conshohocken, PA 19428-2959, United States.*

Substances which have an initial boiling point above 35 °C determined with this method are substances of packing group II and shall be classified in accordance with the applicable entry of this packing group.

650 Waste consisting of packaging residues, solidified residues and liquid residues of paint may be carried under the conditions of packing group II. In addition to the provisions of UN No. 1263, packing group II, the waste may also be packed and carried as follows:

(a) The waste may be packed in accordance with packing instruction P002 of 4.1.4.1 or to packing instruction IBC06 of 4.1.4.2;

(b) The waste may be packed in flexible IBCs of types 13H3, 13H4 and 13H5 in overpacks with complete walls;

(c) Testing of packagings and IBCs indicated under (a) or (b) may be carried out in accordance with the requirements of Chapters 6.1 or 6.5, as appropriate, in relation to solids, at the packing group II performance level.

The tests shall be carried out on packagings and IBCs, filled with a representative sample of the waste, as prepared for carriage;

(d) Carriage in bulk in sheeted vehicles, closed containers or sheeted large containers, all with complete walls is allowed. The body of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining;

(e) If the waste is carried under the conditions of this special provision, the goods shall be declared in accordance with 5.4.1.1.3 in the transport document, as follows: "WASTE, UN 1263 PAINT, 3, II".

651 Special provision V2 (1) is only applicable for a net explosive content of more than 3000 kg (4000 kg with trailer).".

Chapter 3.4

3.4.1 Add a new 3.4.1 to read as follows: "**3.4.1 General requirements**". Current 3.4.1 becomes new 3.4.1.1.

3.4.1.2 and 3.4.1.3 Add the following two new paragraphs:

"3.4.1.2 The maximum gross mass of a combination packaging shall not exceed 30 kg and for shrink and stretched wrapped trays shall not exceed 20 kg.

NOTE: *The limit for combination packagings does not apply when LQ5 is used.*

3.4.1.3 Subject to the maximum limits in 3.4.1.2 and individual limits in table 3.4.6, dangerous goods may be packed together with other articles or substances, provided they will not react dangerously in the event of leakage.".

3.4.3 (b) Amend to read as follows:

"(b) Inner packagings meet the conditions of 6.2.1.2 and 6.2.4.1 to 6.2.4.3.".

3.4.4 Amend the beginning of the first sentence to read as follows: " Unless otherwise provided in this Chapter, when the code "LQ3"is shown in Column (7) …".

In (a), add the following sentence at the end (after the indents): "and be so designed that they meet the relevant construction requirements of 6.1.4;".

Amend (b) to read as follows:

"(b) The maximum net quantity per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;".

In footnote 1, add the following sentence at the end: "*The letters "LQ" are not permitted by the IMDG Code or the ICAO Technical Instructions.*".

3.4.5 Amend (b) and (c) to read as follows:

"(b) The maximum net quantity per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;

(c) Each package is clearly and durably marked as indicated in 3.4.4 (c).".

3.4.6 Amend the table and the notes after the table to read as follows:

Code	**Combination packagings[a] Maximum net quantity**		**Inner packagings placed in shrink-wrapped or stretch-wrapped trays[a] Maximum net quantity**	
	per inner packaging	**per package[b]**	**per inner packaging**	**per package[b]**
(1)	**(2)**	**(3)**	**(4)**	**(5)**
LQ0	No exemption under the conditions of 3.4.2.			
LQ1	120 ml		120 ml	
LQ2	1 *l*		1 *l*	
LQ3 [c]	500 ml	1 *l*	Not allowed	Not allowed
LQ4	3 *l*		1 *l*	
LQ5	5 *l*	Unlimited	1 *l*	
LQ6 [c]	5 *l*		1 *l*	
LQ7 [c]	5 *l*		5 *l*	
LQ8	3 kg		500 g	
LQ9	6 kg		3 kg	
LQ10	500 ml		500 ml	
LQ11	500 g		500 g	
LQ12	1 kg		1 kg	
LQ13	1 *l*		1 *l*	
LQ14	25 ml		25 ml	
LQ15	100 g		100 g	
LQ16	125 ml		125 ml	
LQ17	500 ml	2 *l*	100 ml	2 *l*

Code	Combination packagings[a] Maximum net quantity		Inner packagings placed in shrink-wrapped or stretch-wrapped trays[a] Maximum net quantity	
	per inner packaging	per package[b]	per inner packaging	per package[b]
LQ18	1 kg	4kg	500 g	4 kg
LQ19	3 *l*		1 *l*	
LQ20	Reserved	Reserved	Reserved	Reserved
LQ21	Reserved	Reserved	Reserved	Reserved
LQ22	1 *l*		500 ml	
LQ23	3 kg		1 kg	
LQ24	6 kg		2 kg	
LQ25[d]	1 kg		1 kg	
LQ26[d]	500 ml	2 *l*	500 ml	2 *l*
LQ27	6 kg		6 kg	
LQ28	3 *l*		3 *l*	

[a] *See 3.4.1.2*

[b] *See 3.4.1.3*

[c] *In the case of homogenous mixtures of Class 3 containing water, the quantities specified relate only to the substance of Class 3 contained in those mixtures.*

[d] *For UN Nos. 2315, 3151, 3152 and 3432 when carried in apparatus, the inner packaging quantities shall not be exceeded per piece of apparatus. The apparatus shall be carried in a leakproof packaging and the complete package shall conform to 3.4.4 (c). Shrink-wrapped and stretch-wrapped trays shall not be used for apparatus.*".

PART 4

Chapter 4.1

4.1.1.2 Add a note as follows:

"***NOTE:*** *For chemical compatibility of plastics packagings, including IBCs, made from high and medium molecular mass polyethylene see 4.1.1.19.*".

4.1.1.8 Amend to read as follows:

"4.1.1.8 Liquids may only be filled into inner packagings which have an appropriate resistance to internal pressure that may be developed under normal conditions of carriage. Where pressure may develop in a package by the emission of gas from the contents (as a result of temperature increase or other causes), the packaging, including IBC, may be fitted with a vent. A venting device shall be fitted if dangerous overpressure may develop due to normal decomposition of substances. However, the gas emitted shall not cause danger on account of its toxicity, its flammability, the quantity released, etc. The vent shall be so designed that, when the packaging, including IBC, is in the attitude in which it is intended to be carried, leakages of liquid and the penetration of foreign matter are prevented under normal conditions of carriage.

NOTE: *Venting of the package is not permitted for air transport.*".

4.1.1.9 Insert the words "or routinely maintained" after "repaired", in the first and last sentences.

4.1.1.16 Replace "6.2.5.7" and "6.2.5.8" with "6.2.5.8" and "6.2.5.9", respectively.

4.1.1.19 Add the following new sub-section:

"4.1.1.19 *Verification of the chemical compatibility of plastics packagings, including IBCs, by assimilation of filling substances to standard liquids*

4.1.1.19.1 *Scope*

For high and medium molecular mass polyethylene packagings as specified in 6.1.5.2.6, and for high molecular mass polyethylene IBCs as specified in 6.5.4.3.5, the chemical compatibility with filling substances may be verified by assimilation to standard liquids following the procedures, as set out in 4.1.1.19.3 to 4.1.1.19.5 and using the list in table 4.1.1.19.6, provided that the particular design types have been tested with these standard liquids in accordance with 6.1.5 or 6.5.4, taking into account 6.1.6 and that the conditions in 4.1.1.19.2 are met. When assimilation in accordance with this sub-section is not possible, the chemical compatibility needs to be verified by design type testing in accordance with 6.1.5.2.5 or by laboratory tests in accordance with 6.1.5.2.7 for packagings, and in accordance with 6.5.4.3.3 or 6.5.4.3.6 for IBCs, respectively.

NOTE: *Irrespective of the provisions of this sub-section, the use of packagings, including IBCs, for a specific filling substance is subject to the limitations of Table A of Chapter 3.2, and the packing instructions in Chapter 4.1.*

4.1.1.19.2 *Conditions*

The relative densities of the filling substances shall not exceed that used to determine the height for the drop test performed successfully according to 6.1.5.3.4 or 6.5.4.1.3 and the mass for the stacking test performed successfully according to 6.1.5.6 or where necessary according to 6.5.4.6 with the assimilated standard liquid(s). The vapour pressures of the filling substances at 50 °C or 55 °C shall not exceed that used to determine the pressure for the internal pressure (hydraulic) test performed successfully according to 6.1.5.5.4 or 6.5.4.8.4.2 with the assimilated standard liquid(s). In case that filling substances are assimilated to a combination of standard liquids, the corresponding values of the filling substances shall not exceed the minimum values derived from the applied drop heights, stacking masses and internal test pressures.

Example: UN 1736 Benzoyl chloride is assimilated to the combination of standard liquids "Mixture of hydrocarbons and wetting solution". It has a vapour pressure of 0.34 kPa at 50 °C and a relative density of approximately 1.2. Design type tests for plastics drums and jerricans were frequently performed at minimum required test levels. In practice this means that the stacking test is commonly performed with stacking loads considering only a relative density of 1.0 for the "Mixture of hydrocarbons" and a relative density of 1.2 for the "Wetting solution" (see definition of standard liquids in 6.1.6). As a consequence chemical compatibility of such tested design types would not be verified for benzoyl chloride by reason of the inadequate test level of the design type with the standard liquid "mixture of hydrocarbons". (Due to the fact that in the majority of cases the applied internal hydraulic test pressure is not less than 100 kPa,

the vapour pressure of benzoyl chloride would be covered by such test level according to 4.1.1.10).

All components of a filling substance, which may be a solution, mixture or preparation, such as wetting agents in detergents and disinfectants, irrespective whether dangerous or non-dangerous, shall be included in the assimilation procedure.

4.1.1.19.3 *Assimilation procedure*

The following steps shall be taken to assign filling substances to listed substances or groups of substances in table 4.1.1.19.6 (see also scheme in Figure 4.1.1.19.1):

(a) Classify the filling substance in accordance with the procedures and criteria of Part 2 (determination of the UN number and packing group);

(b) If it is included there, go to the UN number in column (1) of table 4.1.1.19.6;

(c) Select the line that corresponds in terms of packing group, concentration, flashpoint, the presence of non-dangerous components etc. by means of the information given in columns (2a), (2b) and (4), if there is more than one entry for this UN number.

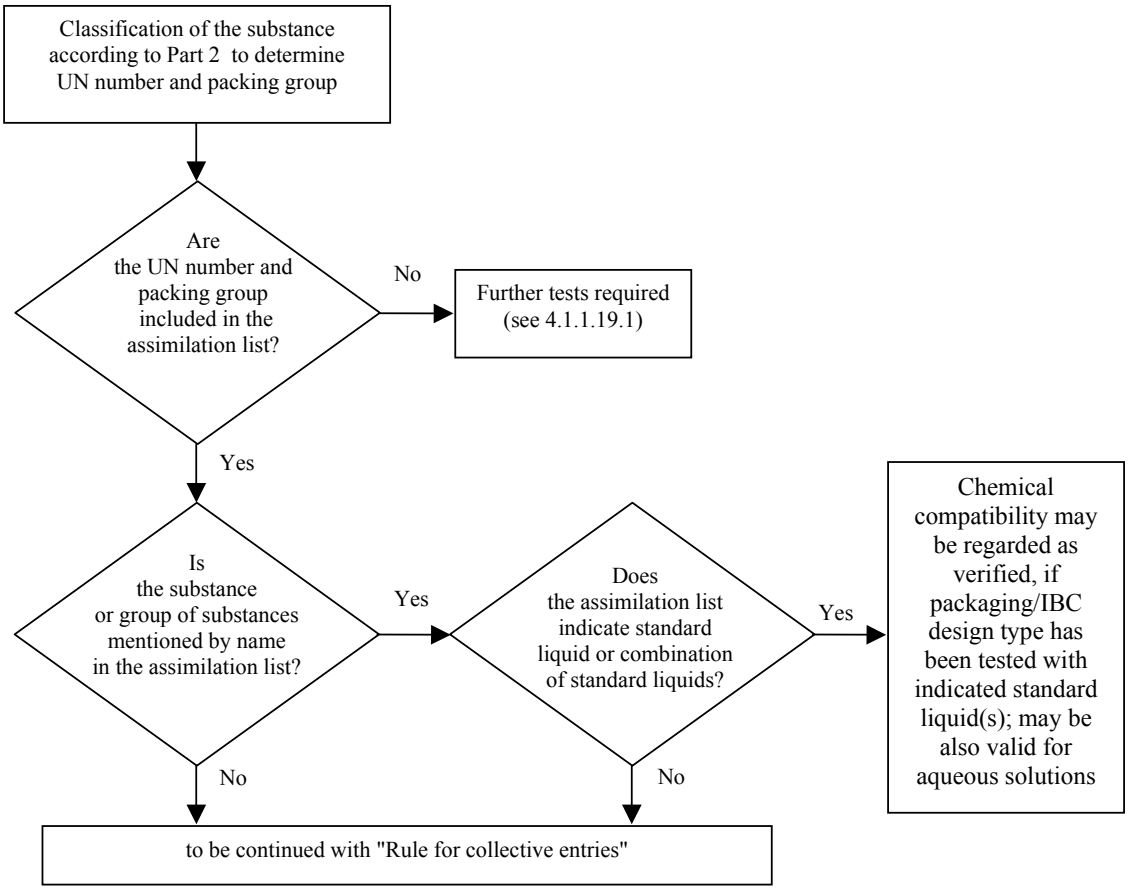
If this is not possible, the chemical compatibility shall be verified in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.4.3.3 or 6.5.4.3.6 for IBCs (however, in the case of aqueous solutions, see 4.1.1.19.4);

(d) If the UN number and packing group of the filling substance determined in accordance with (a) is not included in the assimilation list, the chemical compatibility shall be proved in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.4.3.3 or 6.5.4.3.6 for IBCs;

(e) Apply the "Rule for collective entries", as described in 4.1.1.19.5, if this is indicated in column (5) of the selected line;

(f) The chemical compatibility of the filling substance may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2, if a standard liquid or a combination of standard liquids is assimilated in column (5) and the design type is approved for that/those standard liquid(s).

Figure 4.1.1.19.1*:* Scheme for the assimilation of filling substances to standard liquids



4.1.1.19.4 *Aqueous solutions*

Aqueous solutions of substances and groups of substances assimilated to specific standard liquid(s) in accordance with 4.1.1.19.3 may also be assimilated to that (those) standard liquid(s) provided the following conditions are met:

(a) the aqueous solution can be assigned to the same UN number as the listed substance in accordance with the criteria of 2.1.3.3, and

(b) the aqueous solution is not specifically mentioned by name otherwise in the assimilation list in 4.1.1.19.6, and

(c) no chemical reaction is taking place between the dangerous substance and the solvent water.

Example: Aqueous solutions of UN 1120 tert-Butanol:

- *Pure tert-Butanol itself is assigned to the standard liquid "acetic acid" in the assimilation list.*

- *Aqueous solutions of tert-Butanol can be classified under the entry UN 1120 BUTANOLS in accordance with 2.1.3.3, because the aqueous solution of tert-Butanol does not differ from the entries of the pure substances relating to the class, the packing group(s) and the physical state. Furthermore, the entry "1120 BUTANOLS" is not explicitly limited to the pure substances, and aqueous solutions of these substances are not specifically mentioned by name otherwise in Table A of chapter 3.2 as well as in the assimilation list.*

- *UN 1120 BUTANOLS do not react with water under normal conditions of carriage.*

As a consequence, aqueous solutions of UN 1120 tert-Butanol may be assigned to the standard liquid "acetic acid".

4.1.1.19.5 *Rule for collective entries*

For the assimilation of filling substances for which "Rule for collective entries" is indicated in column (5), the following steps shall be taken and conditions be met (see also scheme in Figure 4.1.1.19.2):

(a) Perform the assimilation procedure for each dangerous component of the solution, mixture or preparation in accordance with 4.1.1.19.3 taking into account the conditions in 4.1.1.19.2. In the case of generic entries, components may be neglected, that are known to have no damaging effect on high density polyethylene (e.g. solid pigments in UN 1263 PAINT or PAINT RELATED MATERIAL);

(b) A solution, mixture or preparation cannot be assimilated to a standard liquid, if:

(i) the UN number and packing group of one or more of the dangerous components does not appear in the assimilation list; or

(ii) "Rule for collective entries" is indicated in column (5) of the assimilation list for one or more of the components; or

(iii) (with the exception of UN 2059 NITROCELLULOSE SOLUTION, FLAMMABLE) the classification code of one or more of its dangerous components differs from that of the solution, mixture or preparation.

(c) If all dangerous components are listed in the assimilation list, and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, and all dangerous components are assimilated to the same standard liquid or combination of standard liquids in column (5), the chemical compatibility of the solution, mixture or preparation may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2;

(d) If all dangerous components are listed in the assimilation list and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, but different standard liquids are indicated in column (5), the chemical compatibility may only be regarded as verified for the following combinations of standard liquids taking into account 4.1.1.19.1 and 4.1.1.19.2:

(i) water/nitric acid 55 %; with the exception of inorganic acids with the classification code C1, which are assigned to standard liquid "water";

(ii) water/wetting solution;

(iii) water/acetic acid;

(iv) water/mixture of hydrocarbons;

(v) water/n-butyl acetate – n-butyl acetate-saturated wetting solution.

(e) In the scope of this rule, chemical compatibility is not regarded as verified for other combinations of standard liquids than those specified in (d) and for all cases specified in (b). In such cases the chemical compatibility shall be verified by other means (see 4.1.1.19.3 (d)).

Example 1: Mixture of UN 1940 THIOGLYCOLIC ACID (50%) and UN 2531 METHACRYLIC ACID, STABILIZED (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

- *Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;*

- *Both the components and the mixture have the same classification code: C3;*

- *UN 1940 THIOGLYCOLIC ACID is assimilated to standard liquid "acetic acid", and UN 2531 METHACRYLIC ACID, STABILIZED is assimilated to standard*

liquid "n-butyl acetate/n-butyl acetate-saturated wetting solution". According to paragraph (d) this is not an acceptable combination of standard liquids. The chemical compatibility of the mixture has to be verified by other means.

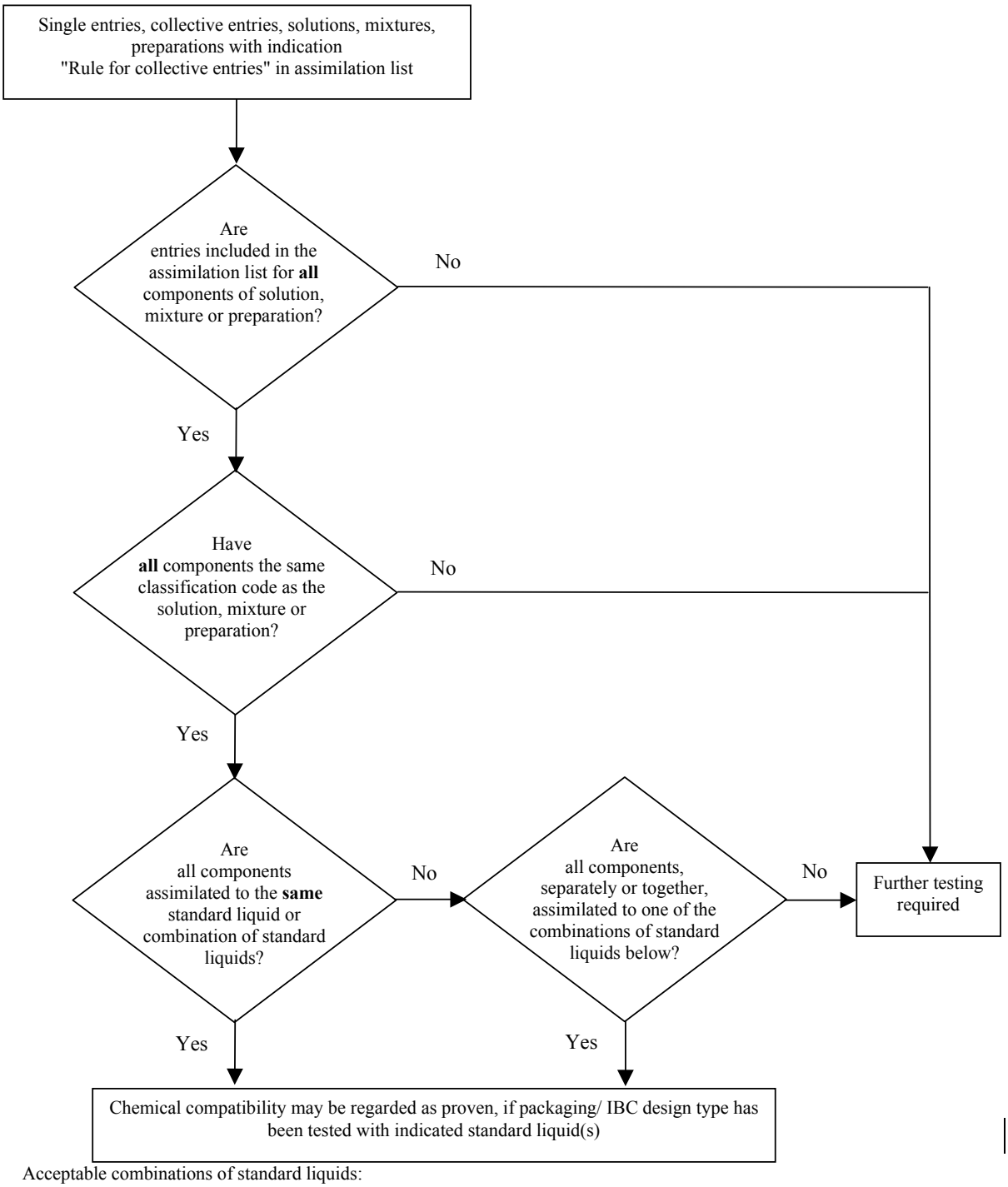
Example 2: Mixture of UN 1793 ISOPROPYL ACID PHOSPHATE (50%) and UN 1803 PHENOLSULPHONIC ACID, LIQUID (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

- *Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;*

- *Both the components and the mixture have the same classification code: C3;*

- *UN 1793 ISOPROPYL ACID PHOSPHATE is assimilated to standard liquid "wetting solution", and UN 1803 PHENOLSULPHONIC ACID, LIQUID is assimilated to standard liquid "water". According to paragraph (d) this is one of the acceptable combinations of standard liquids. As a consequence the chemical compatibility may be regarded as verified for this mixture, provided the packaging design type is approved for the standard liquids "wetting solution" and "water".*

Figure 4.1.1.19.2: Scheme "Rules for collective entries"



Acceptable combinations of standard liquids:

- water/nitric acid (55%), with exemption of inorganic acids of classification code C1 which are assigned to standard liquid "water";
- water/wetting solution;
- water/acetic acid;
- water/mixture of hydrocarbons;
- water/n-butyl acetate – n-butyl acetate saturated wetting solution

4.1.1.19.6 *Assimilation list*

In the following table (assimilation list) dangerous substances are listed in the numerical order of their UN numbers. As a rule, each line deals with a dangerous substance, single entry or collective entry covered by a specific UN number. However, several consecutive lines may be used for the same UN number, if substances belonging to the same UN number have different names (e.g. individual isomers of a group of substances), different chemical properties, different physical properties and/or different transport conditions. In such cases the single entry or collective entry within the particular packing group is the last one of such consecutive lines.

Columns (1) to (4) of table 4.1.1.19.6, following a structure similar to that of Table A of Chapter 3.2, are used to identify the substance for the purpose of this sub-section. The last column indicates the standard liquid(s) to which the substance can be assimilated.

Explanatory notes for each column:

Column (1) UN No.

Contains the UN number:

- of the dangerous substance, if the substance has been assigned its own specific UN number, or

- of the collective entry to which dangerous substances not listed by name have been assigned in accordance with the criteria ("decision trees") of Part 2.

Column (2a) Proper shipping name or technical name

Contains the name of the substance, the name of the single entry, which may cover various isomers, or the name of the collective entry itself.

The indicated name can deviate from the applicable proper shipping name.

Column (2b) Description

Contains a descriptive text to clarify the scope of the entry in those cases when the classification, the transport conditions and/or the chemical compatibility of the substance may be variable.

Column (3a) Class

Contains the number of the Class, whose heading covers the dangerous substance. This Class number is assigned in accordance with the procedures and criteria of Part 2.

Column (3b) Classification code

Contains the classification code of the dangerous substance in accordance with the procedures and criteria of Part 2.

Column (4) Packing group

Contains the packing group number(s) (I, II or III) assigned to the dangerous substance in accordance with the procedures and criteria of Part 2. Certain substances are not assigned to packing groups.

Column (5) Standard liquid

This column indicates, as definite information, either a standard liquid or a combination of standard liquids to which the substance can be assimilated, or a reference to the rule for collective entries in 4.1.1.19.5.

Table 4.1.1.19.6: Assimilation list

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1090	**Acetone**		3	F1	II	Mixture of hydrocarbons **Remark:** applicable only, if it is proved that the permeability of the substance out of the package intended for carriage has an acceptable level
1093	**Acrylonitrile, stabilized**		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1104	**Amyl acetates**	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1105	**Pentanols**	pure isomers and isomeric mixture	3	F1	II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1106	**Amylamine**s	pure isomers and isomeric mixture	3	FC	II/III	Mixture of hydrocarbons **and** wetting solution
1109	**Amyl formates**	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1120	**Butanols**	pure isomers and isomeric mixture	3	F1	II/III	Acetic acid
1123	**Butyl acetates**	pure isomers and isomeric mixture	3	F1	II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1125	**n-Butylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1128	**n-Butyl formate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1129	**Butyraldehyde**		3	F1	II	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1133	**Adhesives**	containing flammable liquid	3	F1	I/II/III	Rule for collective entries
1139	**Coating solution**	includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining	3	F1	I/II/III	Rule for collective entries
1145	**Cyclohexane**		3	F1	II	Mixture of hydrocarbons
1146	**Cyclopentane**		3	F1	II	Mixture of hydrocarbons
1153	**Ethylene glycol diethyl ether**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
1154	**Diethylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1158	**Diisopropylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1160	**Dimethylamine aqueous solution**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1165	**Dioxane**		3	F1	II	Mixture of hydrocarbons
1169	**Extracts, aromatic, liquid**		3	F1	I/II/III	Rule for collective entries
1170	**Ethanol** or **Ethanol solution**	aqueous solution	3	F1	II/III	Acetic acid
1171	**Ethylene glycol monoethyl ether**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
1172	**Ethylene glycol monoethyl ether acetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
1173	**Ethyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1177	**2-Ethylbutyl acetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1178	**2-Ethylbutyraldehyde**		3	F1	II	Mixture of hydrocarbons
1180	**Ethyl butyrate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1188	**Ethylene glycol monomethyl ether**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
1189	**Ethylene glycol monomethyl ether acetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
1190	**Ethyl formate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1191	**Octyl aldehydes**	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
1192	**Ethyl lactate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1195	**Ethyl propionate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1197	**Extracts, flavouring, liquid**		3	F1	I/II/III	Rule for collective entries
1198	**Formaldehyde solution, flammable**	aqueous solution, flashpoint between 23°C and 61°C	3	FC	III	Acetic acid
1202	**Diesel fuel**	complying with EN 590:1993 or with a flashpoint not more than 100°C	3	F1	III	Mixture of hydrocarbons
1202	**Gas oil**	flashpoint not more than 100°C	3	F1	III	Mixture of hydrocarbons
1202	**Heating oil, light**	extra light	3	F1	III	Mixture of hydrocarbons
1202	**Heating oil, light**	complying with EN 590:1993 or with a flashpoint not more than 100°C	3	F1	III	Mixture of hydrocarbons
1203	**Motor spirit,** or **gasoline,** or **petrol**		3	F1	II	Mixture of hydrocarbons
1206	**Heptanes**	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1207	**Hexaldehyde**	n-Hexaldehyde	3	F1	III	Mixture of hydrocarbons
1208	**Hexanes**	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1210	**Printing ink** or **Printing ink related material**	flammable, including printing ink thinning or reducing compound	3	F1	I/II/III	Rule for collective entries
1212	**Isobutanol**		3	F1	III	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1213	**Isobutyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1214	**Isobutylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1216	**Isooctene**s	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1219	**Isopropanol**		3	F1	II	Acetic acid
1220	**Isopropyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1221	**Isopropylamine**		3	FC	I	Mixture of hydrocarbons **and** wetting solution
1223	**Kerosene**		3	F1	III	Mixture of hydrocarbons
1224	3,3-Dimethyl-2-butanone		3	F1	II	Mixture of hydrocarbons
1224	**Ketones, liquid, n.o.s.**		3	F1	II/III	Rule for collective entries
1230	**Methanol**		3	FT1	II	Acetic acid
1231	**Methyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1233	**Methylamyl acetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1235	**Methylamine, aqueous solution**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1237	**Methyl butyrate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1247	**Methyl methacrylate monomer, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1248	**Methyl propionate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1262	**Octanes**	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1263	**Paint** or **Paint related material**	including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base or including paint thinning and reducing compound	3	F1	I/II/III	Rule for collective entries
1265	**Pentanes**	n-Pentane	3	F1	II	Mixture of hydrocarbons
1266	**Perfumery products**	with flammable solvents	3	F1	I/II/III	Rule for collective entries

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1268	Coal tar naphtha	vapour pressure at 50°C not more than 110 kPa	3	F1	II	Mixture of hydrocarbons
1268	**Petroleum distillates, n.o.s.** or **Petroleum products, n.o.s.**		3	F1	I/II/III	Rule for collective entries
1274	**n-Propanol**		3	F1	II/III	Acetic acid
1275	**Propionaldehyde**		3	F1	II	Mixture of hydrocarbons
1276	**n-Propyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1277	**Propylamine**	n-Propylamine	3	FC	II	Mixture of hydrocarbons **and** wetting solution
1281	**Propyl formates**	pure isomers and isomeric mixture	3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1282	**Pyridine**		3	F1	II	Mixture of hydrocarbons
1286	**Rosin oil**		3	F1	I/II/III	Rule for collective entries
1287	**Rubber solution**		3	F1	I/II/III	Rule for collective entries
1296	**Triethylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
1297	**Trimethylamine, aqueous solution**	not more than 50% trimethylamine, by mass	3	FC	I/II/III	Mixture of hydrocarbons **and** wetting solution
1301	**Vinyl acetate, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1306	**Wood preservatives, liquid**		3	F1	II/III	Rule for collective entries
1547	**Aniline**		6.1	T1	II	Acetic acid
1590	**Dichloroanilines**, **liquid**	pure isomers and isomeric mixture	6.1	T1	II	Acetic acid
1602	**Dye, liquid, toxic, n.o.s.** or **Dye intermediate, liquid, toxic, n.o.s.**		6.1	T1	I/II/III	Rule for collective entries
1604	**Ethylenediamine**		8	CF1	II	Mixture of hydrocarbons **and** wetting solution
1715	**Acetic anhydride**		8	CF1	II	Acetic acid
1717	**Acetyl chloride**		3	FC	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1718	**Butyl acid phosphate**		8	C3	III	Wetting solution
1719	Hydrogen sulphide	aqueous solution	8	C5	III	Acetic acid
1719	**Caustic alkali liquid, n.o.s.**	inorganic	8	C5	II/III	Rule for collective entries

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1730	**Antimony pentachloride, liquid**	pure	8	C1	II	Water
1736	**Benzoyl chloride**		8	C3	II	Mixture of hydrocarbons **and** wetting solution
1750	**Chloroacetic acid solution**	aqueous solution	6.1	TC1	II	Acetic acid
1750	**Chloroacetic acid solution**	mixtures of mono- and dichloroacetic acid	6.1	TC1	II	Acetic acid
1752	**Chloroacetyl chloride**		6.1	TC1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1755	**Chromic acid solution**	aqueous solution with not more than 30% chromic acid	8	C1	II/III	Nitric acid
1760	Cyanamide	aqueous solution with not more than 50% cyanamide	8	C9	II	Water
1760	O,O-Diethyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	O,O-Diisopropyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	O,O-Di-n-propyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	**Corrosive liquid, n.o.s.**	flashpoint more than 61°C	8	C9	I/II/III	Rule for collective entries
1761	**Cupriethylenediamine solution**	aqueous solution	8	CT1	II/III	Mixture of hydrocarbons **and** wetting solution
1764	**Dichloroacetic acid**		8	C3	II	Acetic acid
1775	**Fluoroboric acid**	aqueous solution with not more than 50% fluoroboric acid	8	C1	II	Water
1778	**Fluorosilicic acid**		8	C1	II	Water
1779	**Formic acid**		8	C3	II	Acetic acid
1783	**Hexamethylenediamine solution**	aqueous solution	8	C7	II/III	Mixture of hydrocarbons **and** wetting solution
1787	**Hydriodic acid**	aqueous solution	8	C1	II/III	Water
1788	**Hydrobromic acid**	aqueous solution	8	C1	II/III	Water
1789	**Hydrochloric acid**	not more than 38% aqueous solution	8	C1	II/III	Water
1790	**Hydrofluoric acid**	with not more than 60% hydrofluoric acid	8	CT1	II	Water the permissible period of use: not more than 2 years
1791	**Hypochlorite solution**	aqueous solution, containing wetting agents as customary in trade	8	C9	II/III	Nitric acid **and** wetting solution *
1791	**Hypochlorite solution**	aqueous solution	8	C9	II/III	Nitric acid *

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
*) For UN 1791: Test to be carried out only with vent. If the test is carried out with nitric acid as the standard liquid, an acid-resistant vent and gasket shall be used. For hypochlorite solutions, vents and gaskets of the same design type, resistant to hypochlorite (e.g. of silicone rubber) but not resistant to nitric acid, are also permitted.						
1793	**Isopropyl acid phosphate**		8	C3	III	Wetting solution
1802	**Perchloric acid**	aqueous solution with not more than 50% acid, by mass	8	CO1	II	Water
1803	**Phenolsulphonic acid, liquid**	isomeric mixture	8	C3	II	Water
1805	**Phosphoric acid, solution**		8	C1	III	Water
1814	**Potassium hydroxide solution**	aqueous solution	8	C5	II/III	Water
1824	**Sodium hydroxide solution**	aqueous solution	8	C5	II/III	Water
1830	**Sulphuric acid**	with more than 51% pure acid	8	C1	II	Water
1832	**Sulphuric acid, spent**	chemical stable	8	C1	II	Water
1833	**Sulphurous acid**		8	C1	II	Water
1835	**Tetramethylammonium hydroxide, solution**	aqueous solution, flashpoint more than 61°C	8	C7	II	Water
1840	**Zinc chloride solution**	aqueous solution	8	C1	III	Water
1848	**Propionic acid**		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1862	**Ethyl crotonate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1863	**Fuel, aviation, turbine engine**		3	F1	I/II/III	Mixture of hydrocarbons
1866	**Resin solution**	flammable	3	F1	I/II/III	Rule for collective entries
1902	**Diisooctyl acid phosphate**		8	C3	III	Wetting solution
1906	**Sludge acid**		8	C1	II	Nitric acid
1908	**Chlorite solution**	aqueous solution	8	C9	II/III	Acetic acid
1914	**Butyl propionates**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1915	**Cyclohexanone**		3	F1	III	Mixture of hydrocarbons
1917	**Ethyl acrylate, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1919	**Methyl acrylate, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1920	**Nonanes**	pure isomers and isomeric mixture, flashpoint between 23°C and 61°C	3	F1	III	Mixture of hydrocarbons
1935	**Cyanide solution, n.o.s.**	inorganic	6.1	T4	I/II/III	Water
1940	**Thioglycolic acid**		8	C3	II	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1986	**Alcohols, flammable, toxic, n.o.s.**		3	FT1	I/II/III	Rule for collective entries
1987	Cyclohexanol	technical pure	3	F1	III	Acetic acid
1987	**Alcohols, n.o.s.**		3	F1	II/III	Rule for collective entries
1988	**Aldehydes, flammable, toxic, n.o.s.**		3	FT1	I/II/III	Rule for collective entries
1989	**Aldehydes, n.o.s.**		3	F1	I/II/III	Rule for collective entries
1992	2,6-cis-Dimethyl-morpholine		3	FT1	III	Mixture of hydrocarbons
1992	**Flammable liquid, toxic, n.o.s.**		3	FT1	I/II/III	Rule for collective entries
1993	Propionic acid vinyl ester		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1993	(1-Methoxy-2-propyl) acetate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1993	**Flammable liquid, n.o.s.**		3	F1	I/II/III	Rule for collective entries
2014	**Hydrogen peroxide, aqueous solution**	with not less than 20% but not more than 60% hydrogen peroxide, stabilized as necessary	5.1	OC1	II	Nitric acid
2022	**Cresylic acid**	liquid mixture containing cresols, xylenols and methyl phenols	6.1	TC1	II	Acetic acid
2030	**Hydrazine aqueous solution**	with not less than 37% but not more than 64% hydrazine, by mass	8	CT1	II	Water
2030	Hydrazine hydrate	aqueous solution with 64% hydrazine	8	CT1	II	Water
2031	**Nitric acid**	other than red fuming, with not more than 55% pure acid	8	CO1	II	Nitric acid
2045	**Isobutyraldehyde**		3	F1	II	Mixture of hydrocarbons
2050	**Diisobutylene isomeric compounds**		3	F1	II	Mixture of hydrocarbons
2053	**Methyl isobutyl carbinol**		3	F1	III	Acetic acid
2054	**Morpholine**		3	CF1	I	Mixture of hydrocarbons
2057	**Tripropylene**		3	F1	II/III	Mixture of hydrocarbons
2058	**Valeraldehyde**	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
2059	**Nitrocellulose solution, flammable**		3	D	I/II/III	Rule for collective entries: Deviating from the general procedure this rule may be applied to solvents of classification code F1
2075	**Chloral, anhydrous, stabilized**		6.1	T1	II	Wetting solution
2076	**Cresols, liquid**	pure isomers and isomeric mixture	6.1	TC1	II	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2078	**Toluene diisocyanate**	liquid	6.1	T1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2079	**Diethylenetriamine**		8	C7	II	Mixture of hydrocarbons
2209	**Formaldehyde solution**	aqueous solution with 37% Form-aldehyde, methanol content: 8-10%	8	C9	III	Acetic acid
2209	**Formaldehyde solution**	aqueous solution, with not less than 25% formaldehyde	8	C9	III	Water
2218	**Acrylic acid, stabilized**		8	CF1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2227	**n-Butyl methacrylate, stabilized**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2235	**Chlorobenzyl chloride, liquid**	para-Chlorobenzyl chloride	6.1	T2	III	Mixture of hydrocarbons
2241	**Cycloheptane**		3	F1	II	Mixture of hydrocarbons
2242	**Cycloheptene**		3	F1	II	Mixture of hydrocarbons
2243	**Cyclohexyl acetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2244	**Cyclopentanol**		3	F1	III	Acetic acid
2245	**Cyclopentanone**		3	F1	III	Mixture of hydrocarbons
2247	**n-Decane**		3	F1	III	Mixture of hydrocarbons
2248	**Di-n-butylamine**		8	CF1	II	Mixture of hydrocarbons
2258	**1,2-Propylenediamine**		8	CF1	II	Mixture of hydrocarbons **and** wetting solution
2259	**Triethylenetetramine**		8	C7	II	Water
2260	**Tripropylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2263	**Dimethylcyclohexanes**	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
2264	**N,N-Dimethyl-cyclohexylamine**		8	CF1	II	Mixture of hydrocarbons **and** wetting solution
2265	**N,N-Dimethyl-formamide**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2266	**Dimethyl-N-propylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
2269	**3,3'-Imino-dipropylamine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2270	**Ethylamine, aqueous solution**	with not less than 50% but not more than 70% ethylamine, flashpoint below 23°C, corrosive or slightly corrosive	3	FC	II	Mixture of hydrocarbons **and** wetting solution
2275	**2-Ethylbutanol**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2276	**2-Ethylhexylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2277	**Ethyl methacrylate, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2278	**n-Heptene**		3	F1	II	Mixture of hydrocarbons
2282	**Hexanols**	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2283	**Isobutyl methacrylate, stabilized**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2286	**Pentamethylheptane**		3	F1	III	Mixture of hydrocarbons
2287	**Isoheptenes**		3	F1	II	Mixture of hydrocarbons
2288	**Isohexenes**		3	F1	II	Mixture of hydrocarbons
2289	**Isophoronediamine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution
2293	**4-Methoxy-4-methyl-pentan-2-one**		3	F1	III	Mixture of hydrocarbons
2296	**Methylcyclohexane**		3	F1	II	Mixture of hydrocarbons
2297	**Methylcyclohexanone**	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
2298	**Methylcyclopentane**		3	F1	II	Mixture of hydrocarbons
2302	**5-Methylhexan-2-one**		3	F1	III	Mixture of hydrocarbons
2308	**Nitrosylsulphuric acid, liquid**		8	C1	II	Water
2309	**Octadiene**		3	F1	II	Mixture of hydrocarbons
2313	**Picolines**	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
2317	**Sodium cuprocyanide solution**	aqueous solution	6.1	T4	I	Water
2320	**Tetraethylenepentamine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution
2324	**Triisobutylene**	mixture of C12-mono-olefines, flashpoint between 23°C and 61°C	3	F1	III	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2326	**Trimethyl-cyclohexylamine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution
2327	**Trimethylhexamethylene-diamines**	pure isomers and isomeric mixture	8	C7	III	Mixture of hydrocarbons **and** wetting solution
2330	**Undecane**		3	F1	III	Mixture of hydrocarbons
2336	**Allyl formate**		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2348	**Butyl acrylates, stabilized**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2357	**Cyclohexylamine**	flashpoint between 23°C and 61°C	8	CF1	II	Mixture of hydrocarbons **and** wetting solution
2361	**Diisobutylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2366	**Diethyl carbonate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2367	**alpha-Methyl-valeraldehyde**		3	F1	II	Mixture of hydrocarbons
2370	**1-Hexene**		3	F1	II	Mixture of hydrocarbons
2372	**1,2-Di-(dimethylamino)-ethane**		3	F1	II	Mixture of hydrocarbons **and** wetting solution
2379	**1,3-Dimethylbutylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
2383	**Dipropylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
2385	**Ethyl isobutyrate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2393	**Isobutyl formate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2394	**Isobutyl propionate**	flashpoint between 23°C and 61°C	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2396	**Methacrylaldehyde, stabilized**		3	FT1	II	Mixture of hydrocarbons
2400	**Methyl isovalerate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2401	**Piperidine**		8	CF1	I	Mixture of hydrocarbons **and** wetting solution
2403	**Isopropenyl acetate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2405	**Isopropyl butyrate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2406	**Isopropyl isobutyrate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2409	**Isopropyl propionate**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2410	**1,2,3,6-Tetrahydro-pyridine**		3	F1	II	Mixture of hydrocarbons
2427	**Potassium chlorate, aqueous solution**		5.1	O1	II/III	Water
2428	**Sodium chlorate, aqueous solution**		5.1	O1	II/III	Water
2429	**Calcium chlorate, aqueous solution**		5.1	O1	II/III	Water
2436	**Thioacetic acid**		3	F1	II	Acetic acid
2457	**2,3-Dimethylbutane**		3	F1	II	Mixture of hydrocarbons
2491	**Ethanolamine**		8	C7	III	Wetting solution
2491	**Ethanolamine solution**	aqueous solution	8	C7	III	Wetting solution
2496	**Propionic anhydride**		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2524	**Ethyl orthoformate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2526	**Furfurylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2527	**Isobutyl acrylate, stabilized**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2528	**Isobutyl isobutyrate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2529	**Isobutyric acid**		3	FC	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2531	**Methacrylic acid, stabilized**		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2542	**Tributylamine**		6.1	T1	II	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2560	**2-Methylpentan-2-ol**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2564	**Trichloroacetic acid solution**	aqueous solution	8	C3	II/III	Acetic acid
2565	**Dicyclohexylamine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution
2571	Ethylsulphuric acid		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2571	**Alkylsulphuric acids**		8	C3	II	Rule for collective entries
2580	**Aluminium bromide solution**	aqueous solution	8	C1	III	Water
2581	**Aluminium chloride solution**	aqueous solution	8	C1	III	Water
2582	**Ferric chloride solution**	aqueous solution	8	C1	III	Water
2584	Methane sulphonic acid	with more than 5% free sulphuric acid	8	C1	II	Water
2584	**Alkylsulphonic acids, liquid**	with more than 5% free sulphuric acid	8	C1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2584	Benzene sulphonic acid	with more than 5% free sulphuric acid	8	C1	II	Water
2584	Toluene sulphonic acids	with more than 5% free sulphuric acid	8	C1	II	Water
2584	**Arylsulphonic acids, liquid**	with more than 5% free sulphuric acid	8	C1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2586	Methane sulfonic acid	with not more than 5% free sulphuric acid	8	C3	III	Water
2586	**Alkylsulphonic acids, liquid**	with not more than 5% free sulphuric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2586	Benzene sulphonic acid	with not more than 5% free sulphuric acid	8	C3	III	Water
2586	Toluene sulphonic acids	with not more than 5% free sulphuric acid	8	C3	III	Water
2586	**Arylsulphonic acids, liquid**	with not more than 5% free sulphuric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2610	**Triallylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2614	**Methallyl alcohol**		3	F1	III	Acetic acid
2617	**Methylcyclohexanols**	pure isomers and isomeric mixture, flashpoint between 23°C and 61°C	3	F1	III	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2619	**Benzyldimethylamine**		8	CF1	II	Mixture of hydrocarbons **and** wetting solution
2620	**Amyl butyrates**	pure isomers and isomeric mixture, flashpoint between 23°C and 61°C	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2622	**Glycidaldehyde**	flashpoint below 23° C	3	FT1	II	Mixture of hydrocarbons
2626	**Chloric acid, aqueous solution**	with not more than 10% chloric acid	5.1	O1	II	Nitric acid
2656	**Quinoline**	flashpoint more than 61°C	6.1	T1	III	Water
2672	**Ammonia solution**	relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia	8	C5	III	Water
2683	**Ammonium sulphide solution**	aqueous solution, flashpoint between 23°C and 61°C	8	CFT	II	Acetic acid
2684	**3-Diethylamino-propylamine**		3	FC	III	Mixture of hydrocarbons **and** wetting solution
2685	**N,N-Diethylethylene-diamine**		8	CF1	II	Mixture of hydrocarbons **and** wetting solution
2693	**Bisulphites, aqueous solution, n.o.s.**	inorganic	8	C1	III	Water
2707	**Dimethyldioxanes**	pure isomers and isomeric mixture	3	F1	II/III	Mixture of hydrocarbons
2733	**Amines, flammable, corrosive , n.o.s.** or **Polyamines, flammable, corrosive, n.o.s.**		3	FC	I/II/III	Mixture of hydrocarbons **and** wetting solution
2734	Di-sec-butylamine		8	CF1	II	Mixture of hydrocarbons
2734	**Amines, liquid, corrosive, flammable, n.o.s.** or **Polyamines, liquid, corrosive, flammable, n.o.s.**		8	CF1	I/II	Mixture of hydrocarbons **and** wetting solution
2735	**Amines, liquid, corrosive, n.o.s.** or **Polyamines, liquid, corrosive, n.o.s.**		8	C7	I/II/III	Mixture of hydrocarbons **and** wetting solution
2739	**Butyric anhydride**		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2789	**Acetic acid, glacial** or **Acetic acid solution**	aqueous solution, more than 80% acid, by mass	8	CF1	II	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2790	**Acetic acid solution**	aqueous solution, more than 10% but not more than 80% acid, by mass	8	C3	II/III	Acetic acid
2796	**Sulphuric acid**	with not more than 51% pure acid	8	C1	II	Water
2797	**Battery fluid, alkali**	Potassium/Sodium hydroxide, aqueous solution	8	C5	II	Water
2810	2-Chloro-6-fluorobenzyl chloride	stabilized	6.1	T1	III	Mixture of hydrocarbons
2810	2-Phenylethanol		6.1	T1	III	Acetic acid
2810	Ethylene glycol monohexyl ether		6.1	T1	III	Acetic acid
2810	**Toxic liquid, organic, n.o.s.**		6.1	T1	I/II/III	Rule for collective entries
2815	**N-Aminoethylpiperazine**		8	C7	III	Mixture of hydrocarbons **and** wetting solution
2818	**Ammonium polysulphide solution**	aqueous solution	8	CT1	II/III	Acetic acid
2819	**Amyl acid phosphate**		8	C3	III	Wetting solution
2820	**Butyric acid**	n-Butyric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2821	**Phenol solution**	aqueous solution, toxic, non-alkaline	6.1	T1	II/III	Acetic acid
2829	**Caproic acid**	n-Caproic acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2837	**Bisulphates, aqueous solution**		8	C1	II/III	Water
2838	**Vinyl butyrate, stabilized**		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2841	**Di-n-amylamine**		3	FT1	III	Mixture of hydrocarbons **and** wetting solution
2850	**Propylene tetramer**	mixture of C12-monoolefines, flashpoint between 23°C and 61°C	3	F1	III	Mixture of hydrocarbons
2873	**Dibutylaminoethanol**	N,N-Di-n-butylaminoethanol	6.1	T1	III	Acetic acid
2874	**Furfuryl alcohol**		6.1	T1	III	Acetic acid
2920	O,O-Diethyl-dithiophosphoric acid	flashpoint between 23°C and 61°C	8	CF1	II	n-Butylacetate/n-Butylacetate-saturated wetting solution
2920	O,O-Dimethyl-dithiophosphoric acid	flashpoint between 23°C and 61°C	8	CF1	II	Wetting solution
2920	Hydrogen bromide	33% solution in glacial acetic acid	8	CF1	II	Wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2920	Tetramethylammonium hydroxide	aqueous solution, flashpoint between 23°C and 61°C	8	CF1	II	Water
2920	**Corrosive liquid, flammable, n.o.s.**		8	CF1	I/II	Rule for collective entries
2922	Ammonium sulphide	aqueous solution, flashpoint more than 61°C	8	CT1	II	Water
2922	Cresols	aqueous alkaline solution, mixture of sodium and potassium cresolate,	8	CT1	II	Acetic acid
2922	Phenol	aqueous alkaline solution, mixture of sodium and potassium phenolate	8	CT1	II	Acetic acid
2922	Sodium hydrogen difluoride	aqueous solution	8	CT1	III	Water
2922	**Corrosive liquid, toxic, n.o.s.**		8	CT1	I/II/III	Rule for collective entries
2924	**Flammable liquid, corrosive, n.o.s.**	slightly corrosive	3	FC	I/II/III	Rule for collective entries
2927	**Toxic liquid, corrosive, organic, n.o.s.**		6.1	TC1	I/II	Rule for collective entries
2933	**Methyl 2-chloro-propionate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2934	**Isopropyl 2-chloro-propionate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2935	**Ethyl 2-chloropropionate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2936	**Thiolactic acid**		6.1	T1	II	Acetic acid
2941	**Fluoroanilines**	pure isomers and isomeric mixture	6.1	T1	III	Acetic acid
2943	**Tetrahydrofurfurylamine**		3	F1	III	Mixture of hydrocarbons
2945	**N-Methylbutylamine**		3	FC	II	Mixture of hydrocarbons **and** wetting solution
2946	**2-Amino-5-diethyl-aminopentane**		6.1	T1	III	Mixture of hydrocarbons **and** wetting solution
2947	**Isopropyl chloroacetate**		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2984	**Hydrogen peroxide, aqueous solution**	with not less than 8% but less than 20% hydrogen peroxide, stabilized as necessary	5.1	O1	III	Nitric acid
3056	**n-Heptaldehyde**		3	F1	III	Mixture of hydrocarbons
3065	**Alcoholic beverages**	with more than 24% alcohol by volume	3	F1	II/III	Acetic acid

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3066	**Paint** or **Paint related material**	including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base or including paint thinning and reducing compound	8	C9	II/III	Rule for collective entries
3079	**Methacrylonitrile, stabilized**		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3082	sec-Alcohol C_6-C_{17} poly (3-6) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
3082	Alcohol C_{12}-C_{15} poly (1-3) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
3082	Alcohol C_{13}-C_{15} poly (1-6) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
3082	Aviation turbine fuel JP-5	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Aviation turbine fuel JP-7	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Coal tar	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Coal tar naphtha	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Creosote produced of coal tar	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Creosote produced of wood tar	flashpoint more than 61°C	9	M6	III	Mixture of hydrocarbons
3082	Cresyl diphenyl phosphate		9	M6	III	Wetting solution
3082	Decyl acrylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
3082	Diisobutyl phthalate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons
3082	Di-n-butyl phthalate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3082	Hydrocarbons	liquid, flashpoint more than 61°C, environmentally hazardous	9	M6	III	Rule for collective entries
3082	Isodecyl diphenyl phosphate		9	M6	III	Wetting solution
3082	Methylnaphthalenes	isomeric mixture, liquid	9	M6	III	Mixture of hydrocarbons
3082	Triaryl phosphates	n.o.s.	9	M6	III	Wetting solution
3082	Tricresyl phosphate	with not more than 3% ortho-isomer	9	M6	III	Wetting solution
3082	Trixylenyl phosphate		9	M6	III	Wetting solution
3082	Zinc alkyl dithiophosphate	C3-C14	9	M6	III	Wetting solution
3082	Zinc aryl dithiophosphate	C7-C16	9	M6	III	Wetting solution
3082	**Environmentally hazardous substance, liquid, n.o.s.**		9	M6	III	Rule for collective entries
3099	**Oxidizing liquid, toxic, n.o.s.**		5.1	OT1	I/II/III	Rule for collective entries
3101 3103 3105 3107 3109 3111 3113 3115 3117 3119	**Organic Peroxide, Type B, C, D, E** or **F, liquid** or **Organic Peroxide, Type B, C, D, E** or **F, liquid, temperature controlled**		5.2	P1		n-Butyl acetate/ n-butyl acetate-saturated wetting solution **and** mixture of hydrocarbons **and** nitric acid**
**) For UN Nos. 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119 (tert-butyl hydroperoxide with more than 40 % peroxide content and peroxyacetic acids are excluded): All organic peroxides in a technically pure form or in solution in solvents which, as far as their compatibility is concerned, are covered by the standard liquid "mixture of hydrocarbons" in this list. Compatibility of vents and gaskets with organic peroxides may be verified, also independently of the design type test, by laboratory tests with nitric acid.						
3145	Butylphenols	liquid, n.o.s.	8	C3	I/II/III	Acetic acid
3145	**Alkylphenols, liquid, n.o.s.**	including C2 to C12 homologues	8	C3	I/II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3149	**Hydrogen peroxide and peroxyacetic acid mixture, stabilized**	with UN 2790 acetic acid, UN 2796 sulphuric acid and/or UN 1805 phosphoric acid, water and not more than 5% peroxyacetic acid	5.1	OC1	II	Wetting solution **and** nitric acid
3210	**Chlorates, inorganic, aqueous solution, n.o.s.**		5.1	O1	II/III	Water
3211	**Perchlorates, inorganic, aqueous solution, n.o.s.**		5.1	O1	II/III	Water
3213	**Bromates, inorganic, aqueous solution, n.o.s.**		5.1	O1	II/III	Water

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3214	**Permanganates, inorganic, aqueous solution, n.o.s.**		5.1	O1	II	Water
3216	**Persulphates, inorganic, aqueous solution, n.o.s.**		5.1	O1	III	Wetting solution
3218	**Nitrates, inorganic, aqueous solution, n.o.s.**		5.1	O1	II/III	Water
3219	**Nitrites, inorganic, aqueous solution, n.o.s.**		5.1	O1	II/III	Water
3264	Cupric chloride	aqueous solution, slightly corrosive	8	C1	III	Water
3264	Hydroxylamine sulphate	25% aqueous solution	8	C1	III	Water
3264	Phosphorous acid	aqueous solution	8	C1	III	Water
3264	**Corrosive liquid, acidic, inorganic, n.o.s.**	flashpoint more than 61°C	8	C1	I/II/III	Rule for collective entries not applicable to mixtures having components of UN Nos.: 1830, 1832, 1906 and 2308
3265	Methoxyacetic acid		8	C3	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Allyl succinic acid anhydride		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Dithioglycolic acid		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Butyl phosphate	mixture of mono- and di-butyl phosphate	8	C3	III	Wetting solution
3265	Caprylic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Isovaleric acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Pelargonic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Pyruvic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Valeric acid		8	C3	III	Acetic acid
3265	**Corrosive liquid, acidic, organic, n.o.s.**	flashpoint more than 61°C	8	C3	I/II/III	Rule for collective entries
3266	Sodium hydrosulphide	aqueous solution	8	C5	II	Acetic acid
3266	Sodium sulphide	aqueous solution, slightly corrosive	8	C5	III	Acetic acid
3266	**Corrosive liquid, basic, inorganic, n.o.s.**	flashpoint more than 61°C	8	C5	I/II/III	Rule for collective entries

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3267	2,2'-(Butylimino)-bisethanol		8	C7	II	Mixture of hydrocarbons **and** wetting solution
3267	**Corrosive liquid, basic, organic, n.o.s.**	flashpoint more than 61°C	8	C7	I/II/III	Rule for collective entries
3271	Ethylene glycol monobutyl ether	flashpoint 61°C	3	F1	III	Acetic acid
3271	**Ether, n.o.s.**		3	F1	II/III	Rule for collective entries
3272	Acrylic acid tert-butyl ester		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Isobutyl propionate	flashpoint below 23°C	3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Methyl valerate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Trimethyl ortho-formate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Ethyl valerate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Isobutyl isovalerate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	n-Amyl propionate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	n-Butylbutyrate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Methyl lactate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	**Ester, n.o.s.**		3	F1	II/III	Rule for collective entries
3287	Sodium nitrite	40% aqueous solution	6.1	T4	III	Water
3287	**Toxic liquid, inorganic, n.o.s.**		6.1	T4	I/II/III	Rule for collective entries
3291	**Clinical waste, unspecified, n.o.s.**	liquid	6.2	I3	II	Water
3293	**Hydrazine, aqueous solution**	with not more than 37% hydrazine, by mass	6.1	T4	III	Water
3295	Heptenes	n.o.s	3	F1	II	Mixture of hydrocarbons
3295	Nonanes	flashpoint below 23°C	3	F1	II	Mixture of hydrocarbons
3295	Decanes	n.o.s	3	F1	III	Mixture of hydrocarbons
3295	1,2,3-Trimethylbenzene		3	F1	III	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification Code	Packing group	Standard liquid
	3.1.2	3.1.2	2.2	2.2	2.1.1.3	
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3295	**Hydrocarbons, liquid, n.o.s.**		3	F1	I/II/III	Rule for collective entries
3405	**Barium chlorate, solution**	aqueous solution	5.1	OT1	II/III	Water
3406	**Barium perchlorate, solution**	aqueous solution	5.1	OT1	II/III	Water
3408	**Lead perchlorate, solution**	aqueous solution	5.1	OT1	II/III	Water
3413	**Potassium cyanide, solution**	aqueous solution	6.1	T4	I/II/III	Water
3414	**Sodium cyanide, solution**	aqueous solution	6.1	T4	I/II/III	Water
3415	**Sodium fluoride, solution**	aqueous solution	6.1	T4	III	Water
3422	**Potassium fluoride, solution**	aqueous solution	6.1	T4	III	Water

4.1.2.4 Replace "rigid plastics and composite IBCs" with "rigid plastics, composite and flexible IBCs" in the first sentence.

4.1.3.4 Add a new line for large packagings, immediately before the line for IBCs, as follows:
"Large packagings
Flexible plastics: 51H (outer packaging)"

4.1.3.5 In the first sentence, delete "outer" (twice) and "in a combination packaging" and add ";1A2" after "4G" and ";1A2V, 1A2U or 1A2W" after "4GW" in the examples between brackets.

4.1.4.1 **P002** Under "Special packing provisions":

In special packing provision **PP9,** add a new sentence at the end to read as follows:
"For UN No. 3175, the leakproofness test is not required when the liquids are fully absorbed in solid material contained in sealed bags.".

Add the following new special provision:
"**PP84** For UN No. 1057, rigid outer packagings meeting the packing group II performance level shall be used. The packagings shall be designed and constructed and arranged to prevent movement, inadvertent ignition of the devices or inadvertent release of flammable gas or liquid.".

Add, at the end of the table, a row with the following text:
"**Special packing provision specific to RID and ADR**
RR5 Notwithstanding special packing provision PP84, only the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 need be complied with if the gross mass of the package is not more than 10 kg.".

P200 In paragraph 3(d), insert a note to read as follows:
"***NOTE:*** *For pressure receptacles which make use of composite materials, the periodic inspection frequencies shall be as determined by the competent authority which approved the receptacles.".*

Amend the second heading to read: "**Test pressure, filling ratios and filling requirements**".

At the end of this section, add the following paragraph (7):
"(7) The filling of pressure receptacles may only be carried out by specially-equipped centres, with qualified staff using appropriate procedures.

The procedures should include checks:

– of the conformity to regulations of receptacles and accessories;

– of their compatibility with the product to be carried;

– of the absence of damage which might affect safety;

– of compliance with the degree or pressure of filling, as appropriate;

– of regulation markings and identification.".

Renumber the following sub-paragraphs accordingly.

Paragraph (10) (former (9)), rename existing provision "t" as "ta" and modify corresponding reference in Table 2, for UN No. 1965, accordingly.
In provisions "p", "s" and "u", delete "certified".

Paragraph (11) (former (10)), add the following standards:

Requirements applicable	Reference	Document title
(7)	EN 1919:2000	Transportable gas cylinders – Cylinders for gases (excluding acetylene and LPG) – Inspection at time of filling
(7)	EN 1920:2000	Transportable gas cylinders – Cylinders for compressed gases (excluding acetylene) – Inspection at time of filling
(7)	EN 12754:2001	Transportable gas cylinders – Cylinders for dissolved acetylene – Inspection at time of filling
(7)	EN 13365:2002	Transportable gas cylinders – Cylinder bundles for permanent and liquefied gases (excluding acetylene) – Inspection at the time of filling

Amendments to the tables:

Table 1: Compressed gases

UN Nos.	Column	Amendment
1953, 1955, 3303, 3304, 3305 and 3306	LC_{50}	Add "≤ 5000"
2600	LC_{50}	Add "between 3760 and 5000"

Table 2: Liquefied gases and dissolved gases

For UN No. 1010, amend current entries to read as follows:

	Name and description	Classification code	LC_{50} ml/m^3	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years [a]	Test pressure, bar	Filling ratio	Special packing provisions
1010	BUTADIENES, STABILIZED (1,2-butadiene); or	2F		X	X	X	X	10	10	0.59	r
	BUTADIENES, STABILIZED (1,3-butadiene); or	2F		X	X	X	X	10	10	0.55	r
	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	2F		X	X	X	X	10	10	0.50	r, v, z

UN No.	Column	Amendment
3160, 3162, 3307, 3308, 3309 and 3310	LC_{50}	Add "≤ 5000"
3083	Special packing provisions	Delete "k"

Table 3: Substances not in Class 2

UN Nos.	Column	Amendment
1051	LC_{50}	Replace "140" with "40"
1746	LC_{50}	Replace "180" with "50"

P203 Replace paragraphs (4) to (8) with the following:

"(4) Closed cryogenic receptacles constructed as specified in Chapter 6.2 are authorized for the carriage of refrigerated liquefied gases.

(5) Test pressure

Refrigerated liquids shall be filled in closed cryogenic receptacles with the following minimum test pressures:

(a) For closed cryogenic receptacles with vacuum insulation, the test pressure shall not be less than 1.3 times the sum of the maximum internal pressure of the filled receptacle, including during filling and discharge, plus 100 kPa (1 bar);

(b) For other closed cryogenic receptacles, the test pressure shall be not less than 1.3 times the maximum internal pressure of the filled receptacle, taking into account the pressure developed during filling and discharge.

(6) Degree of filling

For non-flammable, non-toxic refrigerated liquefied gases (classification codes 3A and 3O) the volume of liquid phase at the filling temperature and at a pressure

of 100 kPa (1 bar) shall not exceed 98% of the water capacity of the pressure receptacle.

For flammable refrigerated liquefied gases (classification code 3F) the degree of filling shall remain below the level at which, if the contents were raised to the temperature at which the vapour pressure equalled the opening pressure of the relief valve, the volume of the liquid phase would reach 98% of the water capacity at that temperature.

(7) Pressure-relief devices

Closed cryogenic receptacles shall be fitted with at least one pressure-relief device.

(8) Compatibility

Materials used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents. For oxidizing gases (classification code 3O) see also (3) above.".

Add a new paragraph (9), with the title "Periodic inspection" and combine existing text of (7) and (8).

Renumber (9) to (13) accordingly.

P204 Delete (3), (4) and (5), and renumber existing (6) to (8) accordingly.

P205 Replace current text with: "(Deleted)".

P400 In paragraph (1), at the end of the second sentence, replace "in strong wood, fibreboard or plastics boxes" with "in strong rigid outer packagings", and in the third sentence, replace "box" with "outer packaging".

At the end of the table, add a new row with the heading "Special packing provision" and a new special packing provision PP86, as follows:

"**Special packing provision**

PP86 For UN Nos. 3392 and 3394, air shall be eliminated from the vapour space by nitrogen or other means.".

P403 Under "Inner packagings", replace "shall have threaded closures" with "shall be hermetically sealed (e.g. by taping or by threaded closures).".

At the end of the table, add a new row with the heading "Special packing provision" and a new special packing provision PP83, as follows:

"**Special packing provision**

PP83 For UN No. 2813, waterproof bags containing not more than 20 g of substance for the purposes of heat formation may be packaged for carriage. Each waterproof bag shall be sealed in a plastics bag and placed within an intermediate packaging. No outer packaging shall contain more than 400 g of

substance. Water or liquid which may react with the water reactive substance shall not be included in the packaging.".

P404 Replace ", 2881, 3052, 3200 and 3203." with ", 2881, 3200, 3391, 3393 and 3461." at the end of the first sentence.

At the end of the table, add a new row with the heading "Special packing provision" and a new special packing provision PP86, as follows:

"**Special packing provision**
PP86 For UN Nos. 3391 and 3393, air shall be eliminated from the vapour space by nitrogen or other means.".

P407 In the text before "Additional requirement", at the beginning of the last sentence, replace "The maximum net mass of the outer packagings shall not exceed" with "The maximum gross mass of the package shall not exceed".

P410 Under "Special packing provisions", add PP83 *(same wording as in P403)*.

P504 Delete special provision PP29 and amend PP10 to read as follows:
"**PP10** For UN Nos 2014, 2984 and 3149, the packaging shall be vented.".

P520 In column OP8, replace "200 [b]" with "400 [b]" and amend note b to read:
" [b] 60 kg for jerricans/200 kg for boxes and, for solids, 400 kg in combination packagings with outer packagings comprising boxes (4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2) and with inner packagings of plastics or fibre with a maximum net mass of 25 kg.".

P601 In (3), replace "Combination packagings" with "Packagings consisting of:" and amend the first paragraph to read as follows:
"Outer packagings: Steel or plastic drums, removable head (1A2 or 1H2), tested in accordance with the test requirements in 6.1.5 at a mass corresponding to the mass of the assembled package either as a packaging intended to contain inner packagings, or as a single packaging intended to contain solids or liquids, and marked accordingly.".

Before the row "Special packing provision specific to RID and ADR", add a new row with the heading "Special packing provision" and a new special packing provision PP82, as follows:

"**Special packing provision**
PP82 For UN No.1744, glass inner packagings with a capacity of not more than 1.3 litres may be used in a permitted outer packaging with a maximum gross mass of 25 kg.".

P602 In paragraph (3), amend the text between brackets in the first line, to read: "(1A1, 1B1, 1N1, 1H1, 6HA1 or 6HH1)".

P620 In (a)(iii), insert "either" before "individually" and "or separated" after "wrapped" at the end.

In (b), replace "An outer packaging" with "A rigid outer packaging" in the first sentence and replace "at least" with "not less than" in the second sentence.

Under 2, replace existing (a), (b), (i), (ii), (iii) with the following:

" (a) Substances consigned at ambient temperatures or at a higher temperature: Primary receptacles shall be of glass, metal or plastics. Positive means of ensuring a leakproof seal shall be provided, e.g. a heat seal, a skirted stopper or a metal crimp seal. If screw caps are used, they shall be secured by positive means, e.g., tape, paraffin sealing tape or manufactured locking closure;

(b) Substances consigned refrigerated or frozen: Ice, dry ice or other refrigerant shall be placed around the secondary packaging(s) or alternatively in an overpack with one or more complete packages marked in accordance with 6.3.1.1. Interior supports shall be provided to secure secondary packaging(s) or packages in position after the ice or dry ice has dissipated. If ice is used, the outer packaging or overpack shall be leakproof. If dry ice is used, the outer packaging or overpack shall permit the release of carbon dioxide gas. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used;

(c) Substances consigned in liquid nitrogen: Plastics primary receptacles capable of withstanding very low temperature shall be used. The secondary packaging shall also be capable of withstanding very low temperatures, and in most cases will need to be fitted over the primary receptacle individually. Provisions for the consignment of liquid nitrogen shall also be fulfilled. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the liquid nitrogen;

(d) Lyophilised substances may also be carried in primary receptacles that are flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals.".

P650 Replace the existing P650 with the following:

P650	**PACKING INSTRUCTION**	**P650**

This packing instruction applies to UN No. 3373.

(1) The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during carriage, including transhipment between vehicles or containers and between vehicles or containers and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings shall be constructed and closed to prevent any loss of contents that might be caused under normal conditions of carriage by vibration or by changes in temperature, humidity or pressure.

(2) The packaging shall consist of three components:

(a) a primary receptacle;

(b) a secondary packaging; and

(c) an outer packaging.

(3) Primary receptacles shall be packed in secondary packagings in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging.

(4) For carriage, the mark illustrated below shall be displayed on the external surface of the outer packaging on a background of a contrasting colour and shall be clearly visible and legible. The width of the line shall be at least 2 mm; the letters and numbers shall be at least 6 mm high.

(5) The completed package shall be capable of successfully passing the drop test in 6.3.2.5 as specified in 6.3.2.3 and 6.3.2.4 except that the height of the drop shall not be less than 1.2 m. The smallest external dimension of outer packagings shall be not less than 100 mm.

(6) For liquid substances:

(a) The primary receptacle(s) shall be leakproof;

(b) The secondary packaging shall be leakproof;

(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;

P650	PACKING INSTRUCTION	P650

(d) Absorbent material shall be placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;

(e) The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar).

(7) For solid substances:

(a) The primary receptacle(s) shall be siftproof;

(b) The secondary packaging shall be siftproof;

(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them.

(8) Refrigerated or frozen specimens: Ice, dry ice and liquid nitrogen

(a) When dry ice or liquid nitrogen is used to keep specimens cold, all applicable requirements of ADR shall be met. When used, ice or dry ice shall be placed outside the secondary packagings or in the outer packaging or an overpack. Interior supports shall be provided to secure the secondary packagings in the original position after the ice or dry ice has dissipated. If ice is used, the outside packaging or overpack shall be leakproof. If carbon dioxide, solid (dry ice) is used, the packaging shall be designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packagings and the package (the outer packaging or the overpack) shall be marked "Carbon dioxide, solid" or "Dry ice"'.

(b) The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.

(9) Infectious substances assigned to UN No. 3373 which are packed and packages which are marked in accordance with this packing instruction are not subject to any other requirement in ADR.

(10) Clear instructions on filling and closing such packages shall be provided by packaging manufacturers and subsequent distributors to the consignor or to the person who prepares the package (e.g. patient) to enable the package to be correctly prepared for carriage.

(11) If any substance has leaked and has been spilled in a vehicle or container, it may not be reused until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.

P903 Add the following paragraph after the sentence "Packagings conforming to the packing group II performance level.":

"In addition, batteries with a strong, impact resistant outer casing of a gross mass of 12 kg or more, and assemblies of such batteries, may be packed in strong outer packagings, in protective enclosures (e.g., in fully enclosed or wooden slatted crates) unpackaged or on pallets. Batteries shall be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements.".

P903b Add a new special packing provision P903b to read as follows:

P903b	**PACKING INSTRUCTION**	**P903b**
This instruction applies to used cells and batteries of UN Nos. 3090 and 3091.		
Used lithium cells and batteries, with a gross mass of not more than 250 g collected for disposal, together with other used non-lithium batteries or alone, may be carried, without being individually protected, under the following conditions: (1) In 1H2 drums or 4H2 boxes conforming to the packing group II performance level for solids; (2) In collecting trays with a gross mass of less than 30 kg made from non-conducting material meeting the general conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.8.		
Additional requirements The empty space in the packaging shall be filled with appropriate cushioning material so as to restrict the relative movements of the batteries during carriage. Hermetically sealed packagings shall be fitted with a venting device according to 4.1.1.8. The venting device shall be so designed that an overpressure caused by gases does not exceed 10 kPa.		

P904 Replace current P904 with the following:

P904	**PACKING INSTRUCTION**	**P904**
This packing instruction applies to UN No. 3245.		
The following packagings are authorized provided the general provisions of **4.1.1** and **4.1.3** are met: (1) Packagings according to packing instruction P001 or P002 conforming to the packing group III performance level. (2) Packagings, which need not conform to the packaging test requirements of Part 6, but conforming to the following: (a) An inner packaging comprising: (i) a watertight primary receptacle(s); (ii) a watertight secondary packaging which is leakproof; (iii) absorbent material placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in a quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging; (iv) if multiple fragile primary receptacles are placed in a single secondary packaging they shall be individually wrapped or separated to prevent contact between them; (b) An outer packaging shall be strong enough for its capacity, mass and intended use and with a smallest external dimension of at least 100 mm.		
Additional requirement <u>Dry ice and liquid nitrogen</u> When carbon dioxide, solid, (dry ice) is used as a refrigerant, the packaging shall be designed and constructed to permit the release of the gaseous carbon dioxide to prevent the build up of pressure that could rupture the packaging.		

P904	PACKING INSTRUCTION	P904
Substances consigned in liquid nitrogen or dry ice shall be packed in primary receptacles that are capable of withstanding very low temperatures. The secondary packaging shall also be capable of withstanding very low temperatures and, in most cases, will need to be fitted over the primary receptacle individually.		

4.1.4.2 **IBC08** In special provision B6, insert "1408," after "1386,".

Add a new special packing provision B13, to read as follows:
"**B13** ***NOTE:*** *For UN Nos. 1748, 2208 and 2880, carriage by sea in IBCs is prohibited according to the IMDG Code.*".

IBC520 Insert the following new entries:

UN No.	Organic peroxide	Type of IBC	Maximum quantity (litres)	Control temp.	Emer-gency temp.
3119	Dicyclohexylperoxydicarbonate, not more than 42% as a stable dispersion, in water	31A	1250	+ 10 °C	+ 15 °C
3110	**ORGANIC PEROXIDE, TYPE F, SOLID** Dicumyl peroxide	31A 31H1 31HA1	2000		
3120	**ORGANIC PEROXIDE, TYPE F, SOLID, TEMPERATURE CONTROLLED** No formulation listed				

4.1.4.3 **LP02** Insert "Flexible plastics (51H) [c]" in the column for "Large outer packagings", and a note c under the table, as follows: "[c] To be used with flexible inner packagings only.".

4.1.4.4 **PR1** In the "UN Nos" column delete the following Nos.: "3049", "3050", "3203" and "3207".

4.1.6 Replace current 4.1.6 with the following:

"4.1.6 Special packing provisions for goods of Class 2 and goods of other classes assigned to packing instruction P200

NOTE: *For goods of other classes carried in pressure receptacles and assigned to packing instructions PR1 to PR7, see 4.1.4.4.*

4.1.6.1 This section provides general requirements applicable to the use of pressure receptacles and open cryogenic receptacles for the carriage of Class 2 substances and goods of other classes assigned to packing instruction P200 (e.g. UN 1051 hydrogen cyanide, stabilized). Pressure receptacles shall be constructed and closed so as to prevent any loss of contents which might be caused under normal conditions of carriage, including by vibration, or by changes in temperature, humidity or pressure (resulting from change in altitude, for example).

4.1.6.2 Parts of pressure receptacles and open cryogenic receptacles which are in direct contact with dangerous goods shall not be affected or weakened by those dangerous goods and shall not cause a dangerous effect (e.g. catalysing a reaction or reacting with the dangerous goods) (see also table of standards at the end of this section). Pressure receptacles for UN 1001 acetylene, dissolved, and UN 3374 acetylene, solvent free, shall be filled with a porous mass, uniformly distributed, of a type that conforms to the requirements and testing specified by the competent authority and which:

(a) is compatible with the pressure receptacle and does not form harmful or dangerous compounds either with the acetylene or with the solvent in the case of UN 1001; and

(b) is capable of preventing the spread of decomposition of the acetylene in the mass.

In the case of UN 1001, the solvent shall be compatible with the pressure receptacles.

4.1.6.3 Pressure receptacles, including their closures and open cryogenic receptacles, shall be selected to contain a gas or a mixture of gases according to the requirements of 6.2.1.2 and the requirements of the relevant packing instructions of 4.1.4.1. This sub-section also applies to pressure receptacles which are elements of MEGCs and battery-vehicles.

4.1.6.4 A change of use of a refillable pressure receptacle shall include emptying, purging and evacuation operations to the extent necessary for safe operation (see also table of standards at the end of this section). In addition, a pressure receptacle that previously contained a Class 8 corrosive substance or a substance of another class with a corrosive subsidiary risk shall not be authorized for the carriage of a Class 2 substance unless the necessary inspection and testing as specified in 6.2.1.5 have been performed.

4.1.6.5 Prior to filling, the packer shall perform an inspection of the pressure receptacle or open cryogenic receptacle and ensure that the pressure receptacle or open cryogenic receptacle is authorized for the substance to be carried and that the requirements have been met. Shut-off valves shall be closed after filling and remain closed during carriage. The consignor shall verify that the closures and equipment are not leaking.

NOTE: *Shut-off valves fitted to individual cylinders in bundles may be open during carriage, unless the substance carried is subject to special packing provision 'k' or 'q' in packing instruction P200.*

4.1.6.6 Pressure receptacles and open cryogenic receptacles shall be filled according to the working pressures, filling ratios and provisions specified in the appropriate packing instruction for the specific substance being filled. Reactive gases and gas mixtures shall be filled to a pressure such that if complete decomposition of the gas occurs, the working pressure of the pressure receptacle shall not be exceeded. Bundles of cylinders shall not be filled in excess of the lowest working pressure of any given cylinder in the bundle.

4.1.6.7 Pressure receptacles, including their closures, shall conform to the design, construction, inspection and testing requirements detailed in Chapter 6.2. When outer packagings are prescribed, the pressure receptacles and open cryogenic receptacles shall be firmly secured therein. Unless otherwise specified in the detailed packing instructions, one or more inner packagings may be enclosed in one outer packaging.

4.1.6.8 Valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the following methods (see also table of standards at the end of this section):

(a) Valves are placed inside the neck of the pressure receptacle and protected by a threaded plug or cap;

(b) Valves are protected by caps. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;

(c) Valves are protected by shrouds or guards;

(d) Valves are placed in a protective frame;

(e) Pressure receptacles are carried in frames, (e.g. cylinders in bundles); or

(f) Pressure receptacles are carried in protective boxes.

4.1.6.9 Non-refillable pressure receptacles shall:

(a) be carried in an outer packaging, such as a box or crate, or in shrink-wrapped or stretch-wrapped trays;

(b) be of a water capacity less than or equal to 1.25 litres when filled with flammable or toxic gas;

(c) not be used for toxic gases with an LC_{50} less than or equal to 200 ml/m^3; and

(d) not be repaired after being put into service.

4.1.6.10 Refillable pressure receptacles shall be periodically inspected according to the provisions of 6.2.1.6 and packing instruction P200 or P203 as applicable. Pressure receptacles shall not be filled after they become due for periodic inspection but may be carried after the expiry of the time-limit for purposes of performing inspection or disposal, including the intermediate carriage operations.

4.1.6.11 Repairs shall be consistent with the fabrication and testing requirements of the applicable design and construction standards and are only permitted as indicated in the relevant periodic inspection standards specified in Chapter 6.2. Pressure receptacles, other than the jacket of closed cryogenic receptacles, shall not be subjected to repairs of any of the following:

(a) weld cracks or other weld defects;

(b) cracks in walls;

(c) leaks or defects in the material of the wall, head or bottom.

4.1.6.12 Receptacles shall not be offered for filling:

(a) when damaged to such an extent that the integrity of the receptacle or its service equipment may be affected;

(b) unless the receptacle and its service equipment has been examined and found to be in good working order; and

(c) unless the required certification, retest, and filling markings are legible.

4.1.6.13 Filled receptacles shall not be offered for carriage:

(a) when leaking;

(b) when damaged to such an extent that the integrity of the receptacle or its service equipment may be affected;

(c) unless the receptacle and its service equipment has been examined and found to be in good working order; and

(d) unless the required certification, retest, and filling markings are legible.

4.1.6.14 For UN pressure receptacles, the ISO standards listed below shall be applied. For other pressure receptacles, the requirements of section 4.1.6 are considered to have been complied with if the following standards, as relevant, are applied:

Applicable paragraphs	**Reference**	**Title of document**
4.1.6.2	ISO 11114-1:1997	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic Materials
	ISO 11114-2:2000	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic Materials
4.1.6.4	ISO 11621:1997	Gas cylinders – Procedures for change of gas service
	EN 1795:1997	Gas cylinders (excluding LPG) – Procedures for change of gas service.
4.1.6.8 Valves with inherent protection	Annex B of ISO 10297:1999	Gas cylinder – Refillable gas cylinder valves – Specification and type testing
	Annex A of EN 849:1996/A2:2001	Transportable gas cylinders – Cylinder valves: specification and type testing – Amendment 2
	EN 13152:2001	Testing and specifications of LPG cylinder valves – self closing
	EN 13153:2001	Testing and specifications of LPG cylinder valves – manually operated
4.1.6.8 (b) and (c)	ISO 11117:1998	Gas Cylinders – Valve Protection caps and valve guards for industrial and medical gas cylinders – Design construction and tests
	EN 962:1996/A2:2000	Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests

4.1.7.2.1 Amend to read: "The currently assigned organic peroxides specifically listed in packing instruction IBC520 may be carried in IBCs in accordance with this packing instruction.".

4.1.8.3 Add the following sentence at the end:
"When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in category A and assignment to UN Nos 2814 or 2900, the words "suspected category A infectious substance" shall be shown, in parenthesis, following the proper shipping name on the document inside the outer packaging.".

4.1.8.5 Replace "UN No. 3373 Diagnostic specimens" with: "UN No. 3373 Diagnostic specimens or clinical specimens".

4.1.9.1.4 Replace "and intermediate bulk containers" with "IBCs and vehicles".

4.1.9.2.1 Replace "Industrial package Type 1 (Type IP-1), Industrial package Type 2 (Type IP-2), Industrial package Type 3 (Type IP-3)" with " Type IP-1 package, Type IP-2 package, Type IP-3 package,".

4.1.10.4 **MP5** Replace "UN No. 3373 Diagnostic specimens" with "UN No. 3373 Diagnostic specimens or clinical specimens".

Chapter 4.2

Delete "certified" in the title and in note 2 under the title.

4.2.1 In the heading, insert "Class 1 and" before "Classes 3 to 9".

4.2.1.1 At the end of the first sentence, insert "1," before "3"

4.2.1.4 Amend the second sentence to read as follows: "When necessary, the shell shall be thermally insulated.".

4.2.1.9.5.1 Amend the sentence before the formula to read as follows:
"The maximum degree of filling (in %) for solids carried above their melting points and for elevated temperature liquids shall be determined by the following formula:".

4.2.1.18 Add the following new paragraphs:

"**4.2.1.18** ***Additional provisions applicable to the carriage of solid substances carried above their melting point***

4.2.1.18.1 Solid substances carried or offered for carriage above their melting point which are not assigned a portable tank instruction in column (10) of the Table A of Chapter 3.2 or when the assigned portable tank instruction does not apply to carriage at temperatures above their melting point may be carried in portable tanks provided that the solid substances are classified in Classes 4.1, 4.2, 4.3, 5.1, 6.1, 8 or 9 and have no subsidiary risk other than that of Class 6.1 or Class 8 and are in packing group II or III.

4.2.1.18.2 Unless otherwise indicated in the Table A of Chapter 3.2, portable tanks used for the carriage of these solid substances above their melting point shall conform to the

provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II. A portable tank which affords an equivalent or greater level of safety may be selected according to 4.2.5.2.5. The maximum degree of filling (in %) shall be determined according to 4.2.1.9.5 (TP3).".

4.2.4 Delete "certified".

4.2.5.2.1 Replace "2" with "1" at the end of the first sentence.

4.2.5.2.2 Insert "Class 1 and" before "Classes 3 to 9" at the beginning of the first sentence.

4.2.5.2.5 In the table, for portable tank instructions T2 and T4, delete "T6" under "Portable tank instructions also permitted".

4.2.5.2.6 Insert the following paragraph after the title:
"Portable tank instructions specify the requirements applicable to a portable tank when used for the carriage of specific substances. Portable tank instructions T1 to T22 specify the applicable minimum test pressure, the minimum shell thickness (in mm reference steel), and the pressure-relief and bottom-opening requirements.".

In the table for portable tank instruction T1-T22 add a reference "[a]" to a footnote at the end of the heading "Pressure-relief requirements". The footnote will read as follows:

"[a] *When the word "Normal" is indicated, all the requirements of 6.7.2.8 apply except for 6.7.2.8.3.".*

T50 In the table for portable tank instruction T50:

- In the heading "Max. allowable working pressure (bar) Small; Bare; Sunshield; Insulated", add at the end "respectively[a]" and a footnote to read as follows:
  "[a] *"Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (See definition of "Design reference temperature" in 6.7.3.1)."*

- Add a reference "[b]" to a footnote at the end of the heading "Pressure-relief requirements", and a footnote to read as follows:
  "[b] *The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.".*

- Add a new row as follows:

UN No.	Non-refrigerated liquefied gases	Max. allowable working pressure (bar) Small; Bare; Sunshield; Insulated	Openings below liquid level	Pressure-relief requirements (see 6.7.3.7)	Maximum filling ratio
1010	Butadienes and hydrocarbon mixture, stabilized	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7

4.2.5.3 **TP3** Amend to read as follows: "The maximum degree of filling (in %) for solids carried above their melting point and for elevated temperature liquids shall be determined in accordance with 4.2.1.9.5.".

TP5 Amend to read as follows: "The degree of filling prescribed in 4.2.3.6 shall be met.".

TP13 Amend to read as follows: "*(Reserved)*".

Add the following new portable tank instructions:

"**TP32** For UN Nos. 0331, 0332 and 3375, portable tanks may be used subject to the following conditions:

(a) To avoid unnecessary confinement, each portable tank constructed of metal shall be fitted with a pressure-relief device that may be of the reclosing spring-loaded type, a frangible disc or a fusible element. The set to discharge or burst pressure, as applicable, shall not be greater than 2.65 bar for portable tanks with minimum test pressures greater than 4 bar.

(b) The suitability for carriage in tanks shall be demonstrated. One method to evaluate this suitability is test 8 (d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, Sub-section 18.7).

(c) Substances shall not be allowed to remain in the portable tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning, etc).

TP33 The portable tank instruction assigned for this substance applies to granular and powdered solids and to solids which are filled and discharged at temperatures above their melting point which are cooled and carried as a solid mass. For solids which are carried above their melting point, see 4.2.1.18.

TP34 Portable tanks need not be subjected to the impact test in 6.7.4.14.1 if the portable tank is marked "NOT FOR RAIL TRANSPORT" on the plate specified in 6.7.4.15.1 and also in letters of at least 10 cm high on both sides of the outer jacket.".

Chapter 4.3

In the NOTE under the title, delete "certified".

4.3.3.1.1 At the end of Note 1, after "MEGC", add "the elements of which are composed of receptacles.".

4.3.3.2.5 In the table, for UN No. 1010, replace current rows with the following:

1010	BUTADIENES, STABILIZED (1,2-butadiene) or	2 F	1	10	1	10	0.59
	BUTADIENES, STABILIZED (1,3-butadiene) or	2 F	1	10	1	10	0.55
	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	2 F	1	10	1	10	0.50

4.3.4.1.1 In the table, under "Tank Code", amend the explanation for "N" to read as follows:
"N = tank without a venting system according to 6.8.2.2.6 and not hermetically closed;"

4.3.4.1.2 In the table:
- Delete the column "Hierarchy of tanks"; and
- For the tank code L4BH, Class 6.2, delete "risk group 2" in column "Classification code".

Insert the title "Hierarchy of tanks", before the first paragraph after the Note under the table and delete the two first sentences ("The list of tank codes …are indicated in Table A of Chapter 3.2.").

Place the current note under the table at the end of the paragraph, after the sentence "For example… tank code L4BN has been assigned."), and change "This hierarchy" with "The hierarchy".

4.3.4.1.3 Delete the sentence "The hierarchy in 4.3.4.1.2 is not applicable" and the word "However" at the beginning of the last sentence.

Under c), add ", liquid" at the end of the description of UN Nos 1389, 1392, 1420 and 1422.
Add a new paragraph to read as follows:
"UN No. 3401 alkali metal amalgam, solid, UN No. 3402 alkaline earth metal amalgam, solid, 3403 potassium metal alloys, solid and UN No. 3404 potassium sodium alloys, solid: code L10BN;".

Under d), add the following new paragraphs:
"UN No. 2426 ammonium nitrate, liquid, hot concentrated solution with more than 80% but not more than 93%: code L4BV;
"UN No. 3375 ammonium nitrate emulsion, suspension or gel, liquid: code LGAV;
UN No. 3375 ammonium nitrate emulsion, suspension or gel, solid: code SGAV"

4.3.5 Add the following new special provisions TU37 to TU39, to read as follows:
"**TU37** Carriage in tanks is limited to substances containing pathogens which are unlikely to be a serious hazard, and for which, while capable of causing serious infection on exposure, effective treatment and preventive measures are available and the risk of spread of infection is limited (i.e. moderate individual risk and low community risk).

TU38 *(Reserved)*

TU39 The suitability of the substance for carriage in tanks shall be demonstrated. The method to evaluate this suitability shall be approved by the competent authority. One method is test 8(d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, sub-section 18.7).

Substances shall not be allowed to remain in the tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning etc.).".

Chapter 4.4

In the NOTE under the title, delete "certified" and insert "other than UN MEGCs" before ", see Chapter 4.3".

Chapter 4.5

In the NOTE under the title, delete "certified" and insert "other than UN MEGCs" before ", see Chapter 4.3".

PART 5

Chapter 5.1

5.1.2.1 (a) Insert "the word "OVERPACK" and, " after "shall be marked with".

5.1.2.2 Insert the following new second sentence
"The "overpack" marking is an indication of compliance with this requirement.".

5.1.5.1.2 (f) Delete "special form" before "approval".

Chapter 5.2

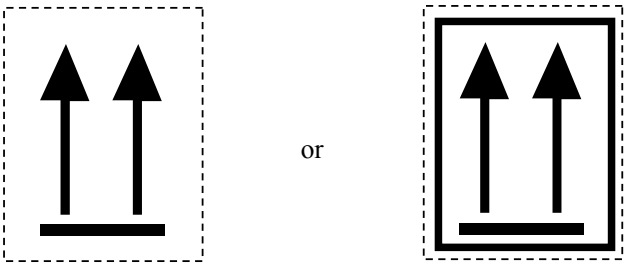
5.2.1.7.4 (a) In sub-paragraphs a) and c), replace "an Industrial package Type 1", "an Industrial package Type 2" and "an Industrial package Type 3" with "a Type IP-1 package", "a Type IP-2 package" and "a Type IP-3 package" as appropriate.

5.2.2.1.6 Amend the beginning of this paragraph to read: "Except as provided in 5.2.2.2.1.2, each label shall:"

5.2.2.2.1.1 Add the following sentence before the last sentence: "For receptacles intended for the carriage of refrigerated liquefied gases, the standard format of A7 (74 × 105 mm) may also be used.".

5.2.2.2.1.6 (c) Replace "for UN No. 1965" with "for gases of UN Nos. 1011, 1075, 1965 and 1978".

5.2.2.2.2 The amendment concerning the text of the labels does not apply to the English version. Amend label model No. 11 to read as follows:



or

No.11
Two black or red arrows on white
or suitable contrasting background

Chapter 5.3

5.3.2.1.2 First sentence, insert ", battery vehicles" after "tank vehicles" and replace "or tank compartment" with ", each tank compartment or each element of battery vehicles".

Amend the end of the last sentence to read as follows: "... carried in the tank, in a compartment of the tank or in an element of a battery vehicle.".

5.3.2.1.4 In the first sentence, insert "or packaged radioactive material with a single UN number under exclusive use and no other dangerous goods" after "dangerous solid substances in bulk".

At the end of the last sentence, add "or for the packaged radioactive material carried under exclusive use in the transport unit or in the container".

5.3.2.2.1 In the first sentence, replace "not less than" with "of" before "30 cm" and "not more than" with "of" before "15 mm".
Insert the following new second sentence:
"The orange-coloured plates may be separated in their middle with a black horizontal line of 15 mm thickness.".

5.3.2.2.3 In the example, delete "Min." before "30 cm".

5.3.2.2.4 Insert the following new paragraph:
"5.3.2.2.4 The permitted tolerances for dimensions specified in this sub-section are ± 10%.".

5.3.2.3.2 Delete hazard identification numbers 72, 723, 73, 74, 75 and 76.

Chapter 5.4

5.4.1.1.1 (c) Amend the second indent to read:
"- for radioactive material of class 7: the Class number: "7";".

Add the following text to the end of the third indent:
"For substances and articles for which no label model is given in Column (5) of Table A in Chapter 3.2, their class according to Column (3a) shall be given instead."

5.4.1.1.1 (d) Add the following NOTE at the end:
*"**NOTE:** For radioactive material of Class 7 with subsidiary risks, see special provision 172 (b) in Chapter 3.3.".*

5.4.1.1.1 (f) Amend the beginning of the sentence as follows:
"(f) with the exception of empty means of containment, uncleaned, the total quantity ...".

5.4.1.1.3 Replace current examples with the following ones:

"WASTE, UN 1230 METHANOL, 3 (6.1), II or
WASTE, METHANOL, 3 (6.1), UN 1230, II or
WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, II or
WASTE, FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, UN 1993, II.".

5.4.1.1.6 Replace current text (except paragraph "If empty tanks, … or "Carriage in accordance with 7.5.8.1." which becomes new 5.4.1.1.6.3) with the following:

"5.4.1.1.6 *Special provision for empty means of containment*

5.4.1.1.6.1 For empty packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7 including empty uncleaned receptacles for gases with a capacity of not more than 1000 litres, the description in the transport document shall be "EMPTY PACKAGING", "EMPTY RECEPTACLE", "EMPTY IBC", "EMPTY LARGE PACKAGING", as appropriate, followed by the information of the goods last loaded, as described in 5.4.1.1.1 (c).

See example as follows: "EMPTY PACKAGING, 6.1 (3)".

5.4.1.1.6.2 For empty means of containment other than packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7 and for empty uncleaned receptacles for gases with a capacity of more than 1000 litres, the description in the transport document shall be "EMPTY TANK VEHICLE", "EMPTY DEMOUNTABLE TANK", "EMPTY TANK CONTAINER", "EMPTY PORTABLE TANK", "EMPTY BATTERY-VEHICLE", "EMPTY MEGC", "EMPTY VEHICLE", "EMPTY CONTAINER", "EMPTY RECEPTACLE", followed by the words "last load" together with the information of the goods last loaded, as prescribed in 5.4.1.1.1 (a) to (d) in one of the sequences as prescribed.

See example as follows:

"EMPTY TANK-VEHICLE, LAST LOAD: UN 1098 ALLYLALCOHOL, 6.1(3), I" or
"EMPTY TANK-VEHICLE, LAST LOAD: ALLYLALCOHOL, 6.1(3), UN 1098, I"

5.4.1.1.7 Replace 1.1.4.2 with 1.1.4.2.1 (twice).

5.4.1.1.8 Amend to read as follows: "*(Reserved)*".
***Consequential amendment**: Delete the NOTE in 1.1.4.3.*

5.4.1.1.17 Add a new paragraph to read as follows:
"5.4.1.1.17 *Special provisions for the carriage of solids in bulk containers conforming to 6.11.4*

When solid substances are carried in bulk containers conforming to 6.11.4, the following statement shall be shown on the transport document (see NOTE at the beginning of 6.11.4):

"Bulk container BK(x) approved by the competent authority of…"".

5.4.1.2.1 (d) Replace "of the protective container/separate compartment" by "of the protective compartment or containment system".

5.4.1.2.2 (b) Replace "4.1.6.5" with "4.1.6.10" (twice).

5.4.1.2.4 Replace current sub-paragraphs a) to c) with the following sentence:
"In addition to the information concerning the consignee (see 5.4.1.1.1 (h)), the name and telephone number of a responsible person shall be indicated.".

5.4.1.2.5 Amend the title to read: "*Additional provisions for Class 7*".

5.4.1.2.5.1 Amend the introductory sentence to read as follows:
"The following information shall be inserted in the transport document for each consignment of Class 7 material, as applicable, in the order given and immediately after the information required under 5.4.1.1.1 (a) to (c):".

Delete sub-paragraphs (a) to (c) and renumber subsequent sub-paragraphs accordingly.

5.4.1.2.5.1 (b) (Previous (e)) Add the following sentence at the end: "For radioactive material with a subsidiary risk, see last sentence of special provision 172 of Chapter 3.3.".

5.4.1.2.5.1 (h) (Previous (k)) Amend to read as follows:
"(h) For consignments of more than one package, the information required in 5.4.1.1.1 and in (a) to (g) above shall be given for each package. For packages in an overpack, container, or vehicle, a detailed statement of the contents of each package within the overpack, container, or vehicle and, where appropriate, of each overpack, container, or vehicle shall be included. If packages are to be removed from the overpack, container, or vehicle at a point of intermediate unloading, appropriate transport documents shall be made available;".

5.4.3.1 (a) Amend to read as follows:
"(a) - the name of the substance or article or group of goods;

- the Class; and

- the UN number, or for a group of goods, the UN numbers."

5.4.3.8 Amend the first indent under "LOAD" to read as follows:
"- Mention of the following details concerning the goods for which these instructions are intended or applicable:

- the name of the substance or article, or group of goods presenting the same dangers;

- the Class; and
- the UN number or, for a group of goods, the UN numbers".

Chapter 5.5

5.5.1 Delete "in risk groups 3 and 4".

5.5.1.2 Replace current text with "*(Reserved)".*

PART 6

Chapter 6.1

6.1.3.1 (a) (ii) Replace "6.1.5.3.4 (c)" with "6.1.5.3.5 (c)".

6.1.3.11 In the examples, replace:

"4G/Y145/S/83"	with	"4G/Y145/S/02"
"lAl/Y1.4/150/83"	with	"lAl/Y1.4/150/98"
"1A2/Y150/S/83"	with	"1A2/Y150/S/01"
"4HW/Y136/S/83"	with	"4HW/Y136/S/98"
"1A2/Y/100/91"	with	"1A2/Y/100/01"
"RID/ADR/0A1/100/83"	with	"RID/ADR/0A1/Y100/89"
"RID/ADR/0A2/Y20/S/83"	with	"RID/ADR/0A2/Y20/S/04"

6.1.3.12 In the examples, replace:

"1A1/Y1.4/150/83 NL/RB/85 RL"	with	"1A1/Y1.4/150/97 NL/RB/01 RL"
"1A2/Y150/S/83 USA/RB/85 R"	with	"1A2/Y150/S/99 USA/RB/00 R"

6.1.3.13 In the example, replace:

"1A2T/Y300/S/94"	with	"1A2T/Y300/S/01"

6.1.4.1.1 Add a NOTE to read as follows:
*"**NOTE**: In the case of carbon steel drums, "suitable" steels are identified in ISO 3573:1999 "Hot rolled carbon steel sheet of commercial and drawing qualities" and ISO 3574:1999 "Cold-reduced carbon steel sheet of commercial and drawing qualities". For carbon steel drums below 100 litres "suitable" steels in addition to the above standards are also identified in ISO 11949:1995 "Cold-reduced electrolytic tinplate", ISO 11950:1995 "Cold-reduced electrolytic chromium/chromium oxide-coated steel" and ISO 11951:1995 "Cold-reduced blackplate in coil form for the production of tinplate or electrolytic chromium/chromium-oxide coated steel.".*

6.1.4.8.7 Replace "6.1.5.8" with "6.1.5.7".

6.1.5.1.11 (a) Replace "6.1.5.3.4 (b)" with "6.1.5.3.5 (b)".
(b) Replace "6.1.5.9" with "6.1.5.8".

6.1.5.2.1 In the second sentence, insert "other than bags" after "packagings".

Insert the following new third sentence: "Bags shall be filled to the maximum mass at which they may be used.".

6.1.5.2.2 Replace "6.1.5.3.4" with "6.1.5.3.5".

6.1.5.2.6 Amend to read as follows:

"6.1.5.2.6 For high molecular mass polyethylene drums and jerricans in accordance with 6.1.4.8 and if necessary, composite packagings of high molecular mass polyethylene in accordance with 6.1.4.19, conforming to the following specifications:

- relative density at 23 °C after thermal conditioning for one hour at 100 °C ≥ 0.940, in accordance with ISO Standard 1183,

- melt flow rate at 190 °C/21.6 kg load ≤ 12 g/10 min, in accordance with ISO Standard 1133,

and for jerricans in accordance with 6.1.4.8 and, if necessary, for composite packagings in accordance with 6.1.4.19 in medium molecular mass polyethylene conforming to the following specifications:

- relative density at 23 °C after thermal conditioning for one hour at 100 °C ≥ 0.940, in accordance with ISO Standard 1183,

- melt flow rate at 190 °C/2.16 kg load ≤ 0.5 g/10 min and ≥ 0.1g/10 min, in accordance with ISO Standard 1133,

- melt flow rate at 190 °C/5 kg load ≤ 3 g/10 min and ≥ 0.5 g/10 min, in accordance with ISO Standard 1133,

chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on high or medium molecular mass polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof. The sufficient chemical compatibility of the packagings may be verified by storage of the required test samples for three weeks at 40 °C with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required.

For the first and last 24 hours of storage, the test samples shall be placed with the closure downwards. However, packagings fitted with a vent shall be so placed on each occasion for five minutes only. After this storage, the test samples shall undergo the tests prescribed in 6.1.5.3 to 6.1.5.6.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, sufficient chemical compatibility of the test samples shall be verified during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from high density, high or medium mass polyethylene packagings can be approved for an equal design type, the internal surface of which is fluorinated.".

6.1.5.2.7 Amend to read as follows:

"6.1.5.2.7 For packagings made of high or medium molecular mass polyethylene, as specified in 6.1.5.2.6, which have passed the test in 6.1.5.2.6, filling substances other than those assimilated in accordance with 4.1.1.19 may also be approved. Such approval shall be based on laboratory tests verifying that the effect of such filling substances on the test specimens is less than that of the appropriate standard liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.".

6.1.5.3.3 Add a new paragraph to read as follows:

"6.1.5.3.3 Removable head packagings for liquids shall not be dropped until at least 24 hours after filling and closing to allow for any possible gasket relaxation.".

Current 6.1.5.3.3 becomes 6.1.5.3.4. Renumber subsequent paragraphs and subparagraphs accordingly.

6.1.5.3.5 (Former 6.1.5.3.4) Replace the sentence: "For liquids if the test is performed with water:" with "For liquids in single packagings and for inner packagings of combination packagings, if the test is performed with water:"

Add the following NOTE after this sentence, before the table:
"***NOTE**: The term water includes water/antifreeze solutions with a minimum specific gravity of 0.95 for testing at – 18 °C*.".

6.1.5.3.6.2 (Former 6.1.5.3.5.2) Insert the words "while retaining its containment function," after "closure".

6.1.5.7 Delete this paragraph and renumber subsequent paragraphs and subparagraphs accordingly.

6.1.6 Amend the heading to read as follows:

"**6.1.6 Standard liquids for verifying the chemical compatibility testing of high or medium molecular mass polyethylene packagings, including IBCs, in accordance with 6.1.5.2.6 and 6.5.4.3.5, respectively**".

6.1.6.1 Delete the title. The text of 6.1.6.1 remains unchanged.

6.1.6.2 Delete. *(Replaced by 4.1.1.19).*

Chapter 6.2

Delete "certified" in relation to "UN certified" in paragraphs: 6.2.5, 6.2.5.2.1, 6.2.5.2.2, 6.2.5.2.3, 6.2.5.5 and 6.2.5.7.1 (a) (renumbered 6.2.5.8.1 (a)).

6.2.1.1.1 Insert ", including fatigue," after "to withstand all conditions".
Delete the sentence after the four indents ("Any additional thickness … of the wall.").

6.2.1.1.2 Replace "material" with "mass" in the first sentence and, in (b), insert "porous" before "mass".

6.2.1.1.3 Renumber the first sentence of this paragraph as 6.2.1.1.5.

6.2.1.1.3 (a) Renumber as 6.2.1.1.5.1 and delete "at the initial inspection".

6.2.1.1.3 (b) Renumber as 6.2.1.1.5.2 and amend as follows:
2nd sentence: replace "continuous sheathing" with "a jacket".

3rd sentence: replace "sheathing" and "protective sheathing" with "jacket" and amend the end of the sentence to read as follows: "…(1 bar) calculated in accordance with a recognized technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) gauge pressure.".

4th sentence: replace "sheathing" with "jacket".

6.2.1.1.4 Renumber as 6.2.1.1.3 and, in the last sentence, insert "toxic liquefied" before "gases".

6.2.1.1.4 *(new)* Insert a new paragraph to read as follows:
"6.2.1.1.4 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.".

6.2.1.1.5.3 and
6.2.1.1.5.4 Add the following two new paragraphs:
"6.2.1.1.5.3 Closed cryogenic receptacles intended for the carriage of refrigerated liquefied gases having a boiling point below -182 °C at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation where there is a risk of contact with oxygen or with oxygen enriched liquid.

6.2.1.1.5.4 Closed cryogenic receptacles shall be designed and constructed with suitable lifting and securing arrangements.".

6.2.1.3.2 e) Replace "4.1.6.4" with "4.1.6.8".

6.2.1.3.3 Amend as follows:
"6.2.1.3.3 *Additional requirements for closed cryogenic receptacles*

6.2.1.3.3.1 Each filling and discharge opening in a closed cryogenic receptacle used for the carriage of flammable refrigerated liquefied gases shall be fitted with at least two mutually independent shut-off devices in series, the first being a stop-valve, the second being a cap or equivalent device.

6.2.1.3.3.2 For sections of piping which can be closed at both ends and where liquid product can be trapped, a method of automatic pressure-relief shall be provided to prevent excess pressure build-up within the piping.

6.2.1.3.3.3 Each connection on a closed cryogenic receptacle shall be clearly marked to indicate its function (e.g. vapour or liquid phase).

6.2.1.3.3.4 Pressure-relief devices

6.2.1.3.3.4.1 *(current text of 6.2.1.3.3).*

6.2.1.3.3.4.2 Closed cryogenic receptacles may, in addition, have a frangible disc in parallel with the spring-loaded device(s) in order to meet the requirements of 6.2.1.3.3.5.

6.2.1.3.3.4.3 Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the pressure-relief device.

6.2.1.3.3.4.4 All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the closed cryogenic receptacle and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly.

6.2.1.3.3.5 Capacity and setting of pressure-relief devices

NOTE: *In relation to pressure-relief devices of closed cryogenic receptacles, maximum allowable working pressure (MAWP) means the maximum effective gauge pressure permissible at the top of a loaded closed cryogenic receptacle in its operating position including the highest effective pressure during filling and discharge.*

6.2.1.3.3.5.1 The pressure-relief device shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. It shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures.

6.2.1.3.3.5.2 Frangible discs shall be set to rupture at a nominal pressure which is the lower of either the test pressure or 150% of the MAWP.

6.2.1.3.3.5.3 In the case of the loss of vacuum in a vacuum-insulated closed cryogenic receptacle, the combined capacity of all pressure-relief devices installed shall be sufficient so that the pressure (including accumulation) inside the closed cryogenic receptacle does not exceed 120% of the MAWP.

6.2.1.3.3.5.4 The required capacity of the pressure-relief devices shall be calculated in accordance with a well-established technical code recognized by the competent authority [1].".

6.2.1.5.1 Insert ", other than closed cryogenic receptacles," after "New pressure receptacles".
In subparagraph (c), delete "and". The sentence "Inspection of the external and internal conditions of the pressure receptacles" becomes new subparagraph (d). Rename subsequent subparagraphs accordingly.

In the NOTE under new (g), replace "inspection body" with "competent authority".

In (h), add the following sentence at the end: "In the case of welded pressure receptacles, particular attention shall be paid to the quality of the welds."

In (j), replace "material" with "mass" and add ", if applicable," before "the quantity of solvent".

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[1] *See for example CGA Publications S-1.2-1995 and S-1.1-2001.*

6.2.1.5.2 Renumber current 6.2.1.5.2 as 6.2.1.5.3 and insert a new paragraph 6.2.1.5.2, to read as follows:

"6.2.1.5.2 On an adequate sample of closed cryogenic receptacles, the inspections and tests specified in 6.2.1.5.1 (a), (b), (d), and (f) shall be performed. In addition, welds shall be inspected by radiographic, ultrasonic or another suitable non-destructive test method on a sample of closed cryogenic receptacles according to the applicable design and construction standard. This weld inspection does not apply to the jacket.

Additionally, all closed cryogenic receptacles shall undergo the initial inspections and tests specified in 6.2.1.5.1 (g), (h), and (i), as well as a leakproofness test and a test of the satisfactory operation of the service equipment after assembly.".

6.2.1.6.1 Replace "under the supervision of a testing and certifying" with "by a ".
In (b), delete "by weighing," and replace "checks of" with "verification of minimum".
In (c), delete "neck".
In NOTE 2, replace "and" with "or" before "tubes".

6.2.1.7 Amend the first sentence to read as follows: "Refillable pressure receptacles shall be marked clearly and legibly with certification, operational and manufacturing marks.".

In the third sentence, insert "or corrosion resistant plate welded on the outer jacket of a closed cryogenic receptacle" after "welded collar".

6.2.1.7.2 In (f), amend the beginning of the first sentence to read: "the mass of the empty pressure receptacle…" and, in the third sentence, delete "empty" before "mass".

In (g), add at the end: "or for closed cryogenic receptacles;".

In (h), in the first sentence, delete "intended" and "the carriage of". Add the following sentence at the end: "In the case of closed cryogenic receptacles, the maximum allowable working pressure preceded by the letters "MAWP";".

In (i), amend the beginning of the sentence to read: "In the case of pressure receptacles for liquefied gases and refrigerated liquefied gases, the water…" and replace "digits" with "figures", in the first sentence.

In (j) and (k) insert "pressure receptacles for" before the UN numbers and replace "material" with "mass" after "porous".

6.2.1.7.3 (l) Add "and for closed cryogenic receptacles" at the end.

6.2.1.7.4 Amend the second indent to read as follows: "The operational marks in 6.2.1.7.2 shall be the middle grouping and the test pressure (e) shall be immediately preceded by the working pressure (h) when the latter is required.".

6.2.1.7.5 Insert the following new second sentence: "In the case of closed cryogenic receptacles, such marks may be on a separate plate attached to the outer jacket.".

6.2.1.7.6 Replace current text with the following:

"In addition to the preceding marks, each refillable pressure receptacle that meets the periodic inspection and test requirements of 6.2.1.6 shall be marked indicating:

(a) The character(s) identifying the country authorizing the body performing the periodic inspection and test. This marking is not required if this body is approved by the competent authority of the country approving manufacture;

(b) The registered mark of the body authorized by the competent authority for performing periodic inspection and test;

(c) The date of the periodic inspection and test, the year (two digits) followed by the month (two digits) separated by a slash (i.e. "/"). Four digits may be used to indicate the year.

The above marks shall appear consecutively in the sequence given.".

6.2.1.8.2 In the NOTE, delete "(see 5.2.2.2.1.2)".

6.2.2 Add the following Note before the Table:
"***NOTE***: *Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR*.".

In the Table:

Replace the sub-heading "*cylinders*" with "*design and construction*" and create a new subheading "*periodic inspection and test*". Standard EN 1251-3:2000 presently under the sub-heading cylinders should be moved in this newly created sub-heading "*periodic inspection and test*".

Add the following standards under *"for design and construction":*

Reference	**Title of document**	**Applicable sub-sections and paragraphs**
EN 12257:2002	Transportable gas cylinders – Seamless, hoop wrapped composite cylinders	6.2.1.1 and 6.2.1.5
EN 12807:2001 (except Annex A)	Transportable refillable brazed steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.1.1 and 6.2.1.5
EN 1964-2:2001	Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litre – Part 2: Cylinders made of seamless steel with an Rm ≥ 1100 MPa	6.2.1.1 and 6.2.1.5
EN 13293:2002	Transportable gas cylinders –Specification for the design and construction of refillable transportable seamless normalised carbon manganese steel gas cylinders of water capacity up to 0.5 litre for compressed, liquefied and dissolved gases and up to 1 litre for carbon dioxide	6.2.1.1 and 6.2.1.5

Reference	Title of document	Applicable sub-sections and paragraphs
EN 13322-1:2003	Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel	6.2.1.1 and 6.2.1.5
EN 13322-2:2003	Transportable gas cylinders – Refillable welded stainless steel gas cylinders – Design and construction – Part 2: Welded stainless steel	6.2.1.1 and 6.2.1.5
EN 12245:2002	Transportable gas cylinders. Fully wrapped composite cylinders	6.2.1.1 and 6.2.1.5
EN 12205:2001	Transportable gas cylinders – Non refillable metallic gas cylinders	6.2.1.1, 6.2.1.5 and 6.2.1.7
EN 12205:2001	Transportable gas cylinders – Non refillable metallic gas cylinders	6.2.1.1, 6.2.1.5 and 6.2.1.7
EN 13110:2002	Transportable refillable welded aluminium cylinders for liquefied petroleum gas (LPG). Design and construction	6.2.1.1, 6.2.1.5 and 6.2.1.7
EN 14427:2004	Transportable refillable fully wrapped composite cylinders for liquefied petroleum gases - Design and construction ***NOTE**: This standard applies only to cylinders equipped with pressure relief valves.*	6.2.1.1, 6.2.1.5 and 2.1.7
EN 14208:2004	Transportable gas cylinders - Specification for welded pressure drums up to 1000 litre capacity for the transport of gases - Design and construction	6.2.1.1, 6.2.1.5 and 6.2.1.7
EN 14140:2003	Transportable refillable welded steel cylinders for Liquefied Petroleum Gas (LPG) - Alternative design and construction	6.2.1.1, 6.2.1.5 and 6.2.1.7
EN 13769:2003	Transportable gas cylinders - Cylinder bundles - Design, manufacture, identification and testing	6.2.1.1, 6.2.1.5 and 6.2.1.7

Replace the reference to EN 1975:1999 with:

EN 1975:1999 +A1:2003	Transportable gas cylinders - Specification for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0.5 litre up to 150 litre	6.2.1.1 and 6.2.1.5

Add under *"for periodic inspection and test"*:

EN 1968:2002 (except Annex B)	Transportable gas cylinders –Periodic inspection and testing of seamless steel gas cylinders	6.2.1.6
EN 1802:2002 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of seamless aluminium alloy gas cylinders	6.2.1.6
EN 12863:2002	Transportable gas cylinders – Periodic inspection and maintenance of dissolved acetylene cylinders ***NOTE:** In this standard "initial inspection" is to be understood as the "first periodic inspection" after final approval of a new acetylene cylinder.*	6.2.1.6
EN 1803:2002 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of welded steel gas cylinders	6.2.1.6

EN ISO 11623:2002 (except clause 4)	Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders	6.2.1.6
EN 14189:2003	Transportable gas cylinders - Inspection and maintenance of cylinder valves at time of periodic inspection of gas cylinders	6.2.1.6

Add under "*for closures":*

EN 13152:2001	Specifications and testing of LPG – cylinder valves - Self closing	6.2.1.1
EN 13153:2001	Specifications and testing of LPG – cylinder valves - Manually operated	6.2.1.1

6.2.3.2.2 Replace "annex G of EN 1975:1999" with "EN 1975:1999 + A1:2003".

6.2.4.1.5 Insert a new paragraph to read as follows:

"6.2.4.1.5 The internal pressure at 50 °C shall exceed neither two-thirds of the test pressure nor 1.32 MPa (13.2 bar). Aerosols dispensers and small receptacles containing gas (gas cartridges) shall be so filled that at 50°C the liquid phase does not exceed 95% of their capacity.".

6.2.4.2 Amend the title to read: "Hydraulic pressure test".

6.2.4.3 Renumber existing 6.2.4.3 as 6.2.4.4 and insert a new sub-section 6.2.4.3 to read as follows:

"**6.2.4.3** ***Tightness (leakproofness) test***

6.2.4.3.1 Each aerosol dispenser and small receptacle containing gas (gas cartridges) shall satisfy a tightness (leakproofness) test in a hot-water bath.

6.2.4.3.2 The temperature of the bath and the duration of the test shall be such that the internal pressure of each receptacle reaches at least 90% of the internal pressure that would be reached at 55°C. However, if the contents are sensitive to heat or if the receptacles are made of a plastics material which softens at this temperature, the temperature of the bath shall be from 20°C to 30°C. In addition, one receptacle out of every 2000 shall be tested at 55 °C.

6.2.4.3.3 No leakage or permanent deformation of a receptacle shall occur, except that a plastics receptacle may be deformed through softening provided that it does not leak.".

6.2.4.4 In 6.2.4.4 (former 6.2.4.3), replace "EN 417:1992" with "EN 417:2003".
The amendment concerning the title of the standard does not apply to the English text.

6.2.5.1.1 Replace "4.1.6.4 (a) to (e)" with "4.1.6.8 (a) to (d)".

6.2.5.1.2 In the first sentence, delete "approved" and add the following text at the end of the first paragraph:
"Closed cryogenic receptacles shall be equipped with pressure relief devices in accordance with 6.2.1.3.3.4 and 6.2.1.3.3.5. Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.".

In the last sentence of the second paragraph replace "receptacles" with "receptacle itself", before "under normal conditions of carriage.".

6.2.5.2.1 Amend the end of the sentence before the table as follows: "…and test of UN cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.5.6:"

Add the following standards to the current table:

ISO 11119-1:2002	Gas cylinders of composite construction – Specification and test methods – Part 1: Hoop wrapped composite gas cylinders
ISO 11119-2:2002	Gas cylinders of composite construction – Specification and test methods – Part 2: Fully wrapped fibre reinforced composite gas cylinders with load-sharing metal liners

Add the following ***NOTES*** at the end of the table:
NOTE 1: *In the above referenced standards composite cylinders shall be designed for unlimited service life.*

NOTE 2: *After the first 15 years of service, composite cylinders manufactured according to these standards, may be approved for extended service by the competent authority which was responsible for the original approval of the cylinders and which will base its decision on the test information supplied by the manufacturer or owner or user.".*

6.2.5.2.2 Amend the end of the sentence before the table as follows: "…and test of UN tubes, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.5.6:".

6.2.5.2.3 Amend the end of the sentence before the table as follows: "… and test of UN acetylene cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.5.6:".

6.2.5.5 Add the following standard to the table:

ISO 11623:2002	Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders

6.2.5.6 In the title, insert "for manufacture" after "approval".

6.2.5.6.2.1 Replace "6.2.5.7 and 6.2.5.8" with "6.2.5.8 and 6.2.5.9".

6.2.5.6.2.4 (d) Insert "commercial" after "ensure".

6.2.5.6.3.1 (i) Insert "and qualification procedures" after " training programmes".

6.2.5.7 Insert the following new sub-section:

"6.2.5.7 *Approval system for periodic inspection and test of pressure receptacles*

6.2.5.7.1 *Definition*

For the purposes of this section:

"Approval system" means a system for competent authority approval of a body performing periodic inspection and test of pressure receptacles (hereinafter referred to as "periodic inspection and test body"), including approval of that body's quality system.

6.2.5.7.2 *General requirements*

Competent authority

6.2.5.7.2.1 The competent authority shall establish an approval system for the purpose of ensuring that the periodic inspection and test of pressure receptacles conform to the requirements of ADR. In instances where the competent authority that approves a body performing periodic inspection and test of a pressure receptacle is not the competent authority of the country approving the manufacture of the pressure receptacle, the marks of the approval country of periodic inspection and test shall be indicated in the pressure receptacle marking (see 6.2.5.8).

The competent authority of the country of approval for the periodic inspection and test shall supply, upon request, evidence demonstrating compliance to this approval system including the records of the periodic inspection and test to its counterpart in a country of use.

The competent authority of the country of approval may terminate the approval certificate referred to in 6.2.5.7.4.1, upon evidence demonstrating non-compliance with the approval system.

6.2.5.7.2.2 The competent authority may delegate its functions in this approval system, in whole or in part.

6.2.5.7.2.3 The competent authority shall ensure that a current list of approved periodic inspection and test bodies and their identity marks is available.

Periodic inspection and test body

6.2.5.7.2.4 The periodic inspection and test body shall be approved by the competent authority and shall:

(a) have a staff with an organizational structure, capable, trained, competent, and skilled, to satisfactorily perform its technical functions;

(b) have access to suitable and adequate facilities and equipment;

(c) operate in an impartial manner and be free from any influence which could prevent it from doing so;

(d) ensure commercial confidentiality;

(e) maintain clear demarcation between actual periodic inspection and test body functions and unrelated functions;

(f) operate a documented quality system in accordance with 6.2.5.7.3;

(g) apply for approval in accordance with 6.2.5.7.4;

(h) ensure that the periodic inspections and tests are performed in accordance with 6.2.5.7.5; and

(i) maintain an effective and appropriate report and record system in accordance with 6.2.5.7.6.

6.2.5.7.3 *Quality system and audit of the periodic inspection and test body*

6.2.5.7.3.1 Quality system

The quality system shall contain all the elements, requirements, and provisions adopted by the periodic inspection and test body. It shall be documented in a systematic and orderly manner in the form of written policies, procedures, and instructions.

The quality system shall include:

(a) a description of the organizational structure and responsibilities;

(b) the relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;

(c) quality records, such as inspection reports, test data, calibration data and certificates;

(d) management reviews to ensure the effective operation of the quality system arising from the audits performed in accordance with 6.2.5.7.3.2;

(e) a process for control of documents and their revision;

(f) a means for control of non-conforming pressure receptacles; and

(g) training programmes and qualification procedures for relevant personnel.

6.2.5.7.3.2 Audit

The periodic inspection and test body and its quality system shall be audited in order to determine whether it meets the requirements of ADR to the satisfaction of the competent authority.

An audit shall be conducted as part of the initial approval process (see 6.2.5.7.4.3). An audit may be required as part of the process to modify an approval (see 6.2.5.7.4.6).

Periodic audits shall be conducted, to the satisfaction of the competent authority, to ensure that the periodic inspection and test body continues to meet the requirements of ADR.

The periodic inspection and test body shall be notified of the results of any audit. The notification shall contain the conclusions of the audit and any corrective actions required.

6.2.5.7.3.3 Maintenance of the quality system

The periodic inspection and test body shall maintain the quality system, as approved, in order that it remains adequate and efficient.

The periodic inspection and test body shall notify the competent authority that approved the quality system of any intended changes, in accordance with the process for modification of an approval in 6.2.5.7.4.6.

6.2.5.7.4 *Approval process for periodic inspection and test bodies*

Initial approval

6.2.5.7.4.1 A body desiring to perform periodic inspection and test of pressure receptacles in accordance with a pressure receptacle standard and ADR shall apply for, obtain, and retain an Approval Certificate issued by the competent authority.

This written approval shall, on request, be submitted to the competent authority of a country of use.

6.2.5.7.4.2 An application shall be made for each periodic inspection and test body and shall include:

(a) the name and address of the periodic inspection and test body and, if the application is submitted by an authorized representative, its name and address;

(b) the address of each facility performing periodic inspection and test;

(c) the name and title of the person(s) responsible for the quality system;

(d) the designation of the pressure receptacles, the periodic inspection and test methods, and the relevant pressure receptacle standards met by the quality system;

(e) documentation on each facility, the equipment, and the quality system as specified under 6.2.5.7.3.1;

(f) the qualifications and training records of the periodic inspection and test personnel; and

(g) details of any refusal of approval of a similar application by any other competent authority.

6.2.5.7.4.3 The competent authority shall:

(a) examine the documentation to verify that the procedures are in accordance with the requirements of the relevant pressure receptacle standards and ADR; and

(b) conduct an audit in accordance with 6.2.5.7.3.2 to verify that the inspections and tests are carried out as required by the relevant pressure receptacle standards and ADR, to the satisfaction of the competent authority.

6.2.5.7.4.4 After the audit has been carried out with satisfactory results and all applicable requirements of 6.2.5.7.4 have been satisfied, an approval certificate shall be issued. It shall include the name of the periodic inspection and test body, the registered mark, the address of each facility, and the necessary data for identification of its approved activities (e.g. designation of pressure receptacles, periodic inspection and test method and pressure receptacle standards).

6.2.5.7.4.5 If the periodic inspection and test body is denied approval, the competent authority shall provide written detailed reasons for such denial.

Modifications to periodic inspection and test body approvals

6.2.5.7.4.6 Following approval, the periodic inspection and test body shall notify the issuing competent authority of any modifications to the information submitted under 6.2.5.7.4.2 relating to the initial approval. The modifications shall be evaluated in order to determine whether the requirements of the relevant pressure receptacle standards and ADR will be satisfied. An audit in accordance with 6.2.5.7.3.2 may be required. The competent authority shall accept or reject these modifications in writing, and an amended approval certificate shall be issued as necessary.

6.2.5.7.4.7 Upon request, the competent authority shall communicate to any other competent authority, information concerning initial approvals, modifications of approvals, and withdrawn approvals.

6.2.5.7.5 *Periodic inspection and test and certification*

The application of the periodic inspection and test marking to a pressure receptacle shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of ADR. The periodic inspection and test body shall affix the periodic inspection and test marking, including its registered mark, to each approved pressure receptacle (see 6.2.5.8.7).

A record certifying that a pressure receptacle has passed the periodic inspection and test shall be issued by the periodic inspection and test body, before the pressure receptacle is filled.

6.2.5.7.6 *Records*

The periodic inspection and test body shall retain records of pressure receptacle periodic inspection and tests (both passed and failed) including the location of the test facility, for not less than 15 years.

The owner of the pressure receptacle shall retain an identical record until the next periodic inspection and test unless the pressure receptacle is permanently removed from service.".

Renumber existing 6.2.5.7 and 6.2.5.8 as 6.2.5.8 and 6.2.5.9 respectively.

6.2.5.8 (Former 6.2.5.7) Amend the title to read: "Marking of refillable UN pressure receptacles".

Amend the first sentence to read as follows: "Refillable UN pressure receptacles shall be marked clearly and legibly with certification, operational and manufacturing marks.".

In the third sentence, insert "or corrosion resistant plate welded on the outer jacket of a closed cryogenic receptacle" after "welded collar".

Replace ""UN" mark" with "UN packaging symbol" (twice).

6.2.5.8.1(a) (Former 6.2.5.7.1 (a)) Delete "certified".

6.2.5.8.2 (Former 6.2.5.7.2) In (g), amend the beginning of the first sentence to read: "the mass of the empty pressure receptacle…" and, in the third sentence, delete "empty".

In (h), add at the end: "or for closed cryogenic receptacles;".

In (i), delete "intended" and "the carriage of" in the first sentence, and add the following sentence at the end: "In the case of closed cryogenic receptacles, the maximum allowable working pressure preceded by the letters "MAWP";".

In (j), amend the beginning of the sentence to read: "In the case of pressure receptacles for liquefied gases and refrigerated liquefied gases, the water…" and replace "digits" with "figures", in the first sentence.

In (k) and (l), insert "pressure receptacles for" before the UN number and replace "material" with "mass" after "porous".

6.2.5.8.3 (Former 6.2.5.7.3) In (m), add the following sentence at the end: "This mark is not required for closed cryogenic receptacles;".

6.2.5.8.4 (Former 6.2.5.7.4) In the first sentence, delete "as shown in the example below:".

In the first indent, replace "6.2.5.7.3" with "6.2.5.8.3".

In the second indent, amend the beginning to read: "The operational marks in 6.2.5.8.2 shall be the middle grouping and the test pressure (f) shall be immediately …".

In the third indent, replace "6.2.5.7.1" with "6.2.5.8.1".

Add the following sentence immediately before the diagram: "The following is an example of the markings applied to a cylinder:".

6.2.5.8.5 (Former 6.2.5.7.5) Insert the following new second sentence: "In the case of closed cryogenic receptacles, such marks may be on a separate plate attached to the outer jacket.".

6.2.5.8.6 (Former 6.2.5.7.6) Replace current text with the following:
"In addition to the preceding marks, each refillable pressure receptacle that meets the periodic inspection and test requirements of 6.2.5.5 shall be marked indicating:

(a) The character(s) identifying the country authorizing the body performing the periodic inspection and test. This marking is not required if this body is approved by the competent authority of the country approving manufacture;

(b) The registered mark of the body authorized by the competent authority for performing periodic inspection and test;

(c) The date of the periodic inspection and test, the year (two digits) followed by the month (two digits) separated by a slash (i.e. "/"). Four digits may be used to indicate the year.

The above marks shall appear consecutively in the sequence given.".

6.2.5.9 (Former 6.2.5.8) Wherever it appears throughout this subsection, replace "UN certified non refillable" with "non-refillable UN". Replace ""UN" mark" with "UN packaging symbol".

6.2.5.9.1 (Former 6.2.5.8.1) Replace "6.2.5.7.1 to 6.2.5.7.3" with "6.2.5.8.1 to 6.2.5.8.3".

6.2.5.9.2 (Former 6.2.5.8.2) Replace "6.2.5.7.4" with "6.2.5.8.4". In the NOTE, delete "(see 5.2.2.2.1.2)".

Chapter 6.3

6.3.1.2 In the example, replace:
"4G/CLASS 6.2/92" with "4G/CLASS 6.2/01"

Chapter 6.4

Replace "Industrial package Type 1 (Type IP-1)", "Industrial package Type 2 (Type IP-2)" and "Industrial package Type 3 (Type IP-3)" with " Type IP-1 package", "Type IP-2 package" and "Type IP-3 package" respectively, all throughout this chapter.

6.4.6.1 Add the following new first sentence: "Packages designed to contain uranium hexafluoride shall meet the requirements prescribed elsewhere in ADR which pertain to the radioactive and fissile properties of the material.".

Amend the beginning of the second sentence to read as follows: "Except as allowed in 6.4.6.4, uranium hexafluoride in quantities of 0.1 kg or more shall also be packaged…".

Delete the last sentence ("The package shall also meet … fissile properties of the material.").

6.4.6.2 In (b), insert "free drop" and in (c), insert "thermal", respectively, before "test".

6.4.6.4 Amend (a) to read as follows:

"(a) The packages are designed to international or national standards other than ISO 7195:1993 provided an equivalent level of safety is maintained;"

In (b), insert "of" after "test pressure".

Add the following sentence after the subparagraphs (a) to (c): "In all other respects the requirements specified in 6.4.6.1 to 6.4.6.3 shall be satisfied.".

6.4.7.16 (a) Replace "6.4.7.14" with "6.4.7.14 (a)".

6.4.8.5 Replace the existing table with the following one:

Case	Form and location of surface	Insolation for 12 hours per day (W/m^2)
1	Flat surfaces carried horizontally-downward facing	0
2	Flat surfaces carried horizontally-upward facing	800
3	Surfaces carried vertically	200[a]
4	Other downward facing (not horizontal) surfaces	200[a]
5	All other surfaces	400[a]

Note "a" under the table remains unchanged.

6.4.11.1 (b) (i) Amend to read as follows: "of 6.4.7.2 for packages containing fissile material;".

6.4.11.2 (a) Amend the sentence after subparagraphs (i) to (iii) to read as follows:
"Neither beryllium nor deuterium in hydrogenous material enriched in deuterium shall be present in quantities exceeding 1% of the applicable consignment mass limits provided in Table 6.4.11.2;".

6.4.11.5 Replace "packaging" with "package".

6.4.14 Replace "6.4.17.2" with "6.4.17.2 and 6.4.20.2".

6.4.17.2 (b) In the last but one sentence, replace "edges" with "edge".

6.4.20.2 (a) Amend the end of the last but one sentence to read: "…at the top with its edge rounded off to a radius of not more than 6 mm.".

6.4.20.4 Amend the end of the last sentence to read: "… as defined in 6.4.14, except that the target surface may be at any orientation as long as the surface is normal to the specimen path.".

Chapter 6.5

6.5.2.1.1 Assign paragraph number "6.5.2.1.2" to the heading "Examples of markings for various types of IBC in accordance with (a) to (h) above:", insert "6.5.2.1.1" before "(a) to (h)" in that heading, and in the examples, replace:

"11A/Y/02 89"	with	"11A/Y/02 99"
"13H3/Z/03 89"	with	"13H3/Z/03 01"
"31H1/Y/04 89"	with	"31H1/Y/04 99"
"31HA1/Y/05 91"	with	"31HA1/Y/05 01"
"11C/X/01 93"	with	"11C/X/01 02"

6.5.4.2.2 Add a new paragraph to read as follows and renumber the subsequent paragraphs accordingly:

"6.5.4.2.2 To prove sufficient chemical compatibility with the contained goods or standard liquids in accordance with 6.5.4.3.3 or 6.5.4.3.5 for rigid plastics IBCs of type 31H2 and for composite IBCs of types 31HH1 and 31HH2, a second IBC can be used when the IBCs are designed to be stacked. In such case both IBCs shall be subjected to a preliminary storage.".

6.5.4.3.5 and 6.5.4.3.6 Add the following two new paragraphs and renumber subsequent paragraph accordingly:

"6.5.4.3.5 For high molecular mass polyethylene rigid plastics IBCs (types 31H1 and 31H2) in accordance with 6.5.3.3 and composite IBCs (types 31HZ1 and 31HZ2) in accordance with 6.5.3.4, conforming to the following specifications:

- relative density at 23° C after thermal conditioning for one hour at 100 °C ≥ 0.940, in accordance with ISO Standard 1183,

- melt flow rate at 190 °C/21.6 kg load ≤ 12 g/10 min, in accordance with ISO Standard 1133,

chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on high or medium molecular mass polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof.

The sufficient chemical compatibility of the IBCs may be verified by storage of the required test samples for three weeks at 40 °C with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required. After this storage, the test samples shall undergo the tests prescribed in 6.5.4.4 to 6.5.4.9.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, proof of sufficient chemical compatibility of the test samples shall be provided during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from high density, high mass polyethylene IBCs can be approved for an equal design type, the internal surface of which is fluorinated.

6.5.4.3.6 For IBC design types, made of high molecular mass polyethylene, as specified in 6.5.4.3.5, the chemical compatibility with filling substances may also be verified by laboratory tests proving that the effect of such filling substances on the test specimens is less than that of the appropriate standard liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.".

6.5.4.3.7 (Former 6.5.4.3.5) Replace "3rd" by "3rd[f]" in lines 5 and 7 of column "Stacking" and add the following note **f** under the table:
"**f** *The second IBC in accordance with 6.5.4.2.2 can be used out of the sequential order direct after the preliminary storage.".*

6.5.4.6.3 (a) Replace the text preceding sub-paragraphs i) to iii) with the following:
"(a) The IBC shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.5.4.6.4). For rigid plastics IBCs of type 31H2 and composite IBCs of types 31HH1 and 31HH2, a stacking test shall be carried out with the original filling substance or a standard liquid (see 6.1.6) in accordance with 6.5.4.3.3 or 6.5.4.3.5 using the second IBC in accordance with 6.5.4.2.2 after the preliminary storage. IBCs shall be subjected to the test load for a period of at least:".

Chapter 6.6

6.6.3.2 In the examples, replace:

"96/N/PQRS"	with	"01/N/PQRS"
"95/D/ABCD 987"	with	"02/D/ABCD 987"
"06 97/S/1999"	with	"06 01/S/1999"

Chapter 6.7

6.7 In the title, delete "certified".
In the NOTE, insert "other than UN MEGCs" before ", see Chapter 6.8".

6.7.2 Insert "Class 1 and" before "Classes 3 to 9".

6.7.2.1 In the definition of "*Design pressure*", replace "dynamic" with "static" in (b) (iii).

In the definition of "*Design temperature range*", insert "the other" before "substances" at the beginning of the second sentence.

In the definition of "*portable tank*" insert "Class 1 and" before "Classes 3 to 9" and delete the words "having a capacity of more than 450 litres" in the first sentence.

Add the following definitions:

""*Fine grain steel"* means steel which has a ferritic grain size of 6 or finer when determined in accordance with ASTM E 112-96 or as defined in EN 10028-3, Part 3;

"Fusible element" means a non-reclosable pressure relief device that is thermally actuated;

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

6.7.2.2.10 Insert the following new third sentence:
"A shell used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure, subject to the approval of the competent authority. In this case, the vacuum valve shall be set to relieve at this lower pressure.".

6.7.2.12.2 Amend the beginning of the first sentence to read as follows:
"The combined delivery capacity of the pressure relief system (taking into account the reduction of the flow when the portable tank is fitted with frangible-discs preceding spring-loaded pressure-relief devices or when the spring-loaded pressure-relief devices are provided with a device to prevent the passage of the flame), in condition of complete fire engulfment…".

6.7.2.13.1 (e) Replace "of the device" with "of the spring-loaded pressure relief devices, frangible discs or fusible elements".

6.7.2.13.2 Insert "spring-loaded" before "pressure-relief devices".

6.7.2.19.1, 6.7.3.15.1, 6.7.4.14.1 and
6.7.5.12.1 Replace the reference for the Canadian and German standards, respectively, with the following:

"National Standard of Canada, CAN/CGSB-43.147-2002, "Construction, Modification, Qualification, Maintenance, and Selection and Use of Means of Containment for the Handling, Offering for Transport or Transporting of Dangerous Goods by Rail", March 2002, published by the Canadian General Standards Board (CGSB).

Deutsche Bahn AG
DB Systemtechnik, Minden
Verifikation und Versuche, TZF 96.2
Portable tanks, longitudinal impact test"

6.7.3.1 In the definition of "*Design pressure*" replace "dynamic" with "static" in b) ii).

6.7.5 In the title, delete "certified".

6.7.5.2.1 Replace "loaded" with "filled" in the second sentence.

Chapter 6.8

6.8 In the NOTE under the title, delete "certified".

6.8.2.1.7 Insert a new third sentence to read as follows:
"Shells used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure but not less than 5 kPa (0.05 bar).".

6.8.2.2.3 Replace the current paragraph with the following:
"Tanks that are not hermetically closed may be fitted with vacuum valves to avoid an unacceptable negative internal pressure; these vacuum-relief valves shall be set to relieve at a vacuum setting not greater than the vacuum pressure for which the tank has been designed (see 6.8.2.1.7). Hermetically closed tanks may not be fitted with vacuum valves, unless otherwise prescribed in the special provisions of 6.8.4.".

6.8.2.2.10 Add a new paragraph to read as follows:
"6.8.2.2.10 If tanks required to be hermetically closed are equipped with safety valves, these shall be preceded by a bursting disc and the following conditions shall be observed:

The arrangement of the bursting disc and safety valve shall be such as to satisfy the competent authority. A pressure gauge or another suitable indicator shall be provided in the space between the bursting disc and the safety valve, to enable detection of any rupture, perforation or leakage of the disc which may disrupt the action of the safety valve.".

6.8.2.4.2 Amend the end of the third paragraph to read as follows: "… tests in accordance with 6.8.2.4.3, at an effective internal pressure at least equal to the maximum working pressure.".

6.8.2.4.3 In the second sentence of the second paragraph, insert "or solids in the granular or powdery state" after "carriage of liquids".

6.8.2.5.1 At the 8th indent, replace "6.8.2.4.1 and 6.8.2.4.2" with "6.8.2.4.1, 6.8.2.4.2 or 6.8.2.4.3;".

6.8.2.5.2 Amend the right column as follows:
Replace "- proper shipping name of substance carried[13];" with:
"- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;".
Delete footnote 13 and renumber subsequent footnotes accordingly.

Add a new indent at the end, to read as follows:
"- for substances other than those according to 4.3.4.1.3, the alphanumerical codes of all applicable special provisions TC, TE and TA according to 6.8.4.".

6.8.2.6 Amend to read as follows:
"**6.8.2.6** ***Requirements for tanks which are designed, constructed and tested according to standards***

NOTE: *Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR.*

The requirements of Chapter 6.8 are considered to have been complied with if the following standards are applied:

Applicable sub-sections and paragraphs	**Reference**	**Title of document**
For all tanks		
6.8.2.1	EN 14025:2003	Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction
For testing and inspection		
6.8.2.4 6.8.3.4	EN 12972:2001 (with the exception of annexes D and E)	Tanks for transport of dangerous goods - Testing, inspection and marking of metallic tanks
For tanks for gases of class 2		
6.8.2.1(with the exception of 6.8.2.1.17); 6.8.2.4.1 (with the exclusion of the leakproofness test); 6.8.2.5.1, 6.8.3.1 and 6.8.3.5.1	EN 12493:2001 (except Annex C)	Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture ***NOTE***: *Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.*
6.8.3.2 (with the exception of 6.8.3.2.3)	EN 12252:2000	Equipping of LPG road tankers ***NOTE:*** *Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.*
6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.4, 6.8.3.1 and 6.8.3.4	EN 13530-2:2002	Cryogenic vessels – Large transportable vacuum insulated vessels – Part 2: Design, fabrication, inspection and testing
6.8.2.1 (with the exception of 6.8.2.1.17, 6.8.2.1.19 and 6.8.2.1.20), 6.8.2.4, 6.8.3.1 and 6.8.3.4	EN 14398-2:2003 (except Table 1)	Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing
For tanks intended for the carriage of liquid petroleum products and other dangerous substances of Class 3 which have a vapour pressure not exceeding 110 kPa at 50 °C and petrol, and which have no toxic or corrosive subsidiary hazard		
6.8.2.1	EN 13094:2004	Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction
6.8.2.2 and 6.8.2.4.1	EN 13082: 2001	Tanks for transport of dangerous goods – Service equipment for tanks – Vapour transfer valve
	EN 13308: 2002	Tanks for transport of dangerous goods – Service equipment for tanks – Non pressure balanced footvalve
	EN 13314: 2002	Tanks for transport of dangerous goods – Service equipment for tanks – Fill hole cover
	EN 13316: 2002	Tanks for transport of dangerous goods – Service equipment for tanks –Pressure balanced footvalve

Applicable sub-sections and paragraphs	Reference	Title of document
	EN 13 317:2002	Tanks for transport of dangerous goods – Service equipment for tanks – Manhole cover assembly

6.8.2.7 Amend to read as follows:

"**6.8.2.7** ***Requirements for tanks which are not designed, constructed and tested according to standards***

Tanks which are not designed, constructed and tested in accordance with the standards set out in 6.8.2.6 shall be designed, constructed and tested in accordance with the provisions of a technical code providing the same level of safety and recognised by the competent authority. Tanks shall, however, comply with the minimum requirements of 6.8.2. For testing, inspection and marking, the applicable standard as referred to in 6.8.2.6 may also be used.".

6.8.3.2 Insert the following new paragraphs under "**Items of equipment for battery-vehicles and MEGCs**" and renumber subsequent paragraphs accordingly:

"6.8.3.2.18 Service and structural equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. When the connection between the frame of the battery-vehicle or MEGC and the elements allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without damage to working parts. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing, or releasing the pressure receptacle contents. The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.

6.8.3.2.19 In order to avoid any loss of content in the event of damage, the manifolds, the discharge fittings (pipe sockets, shut-off devices), and the stop-valves shall be protected or arranged from being wrenched off by external forces or designed to withstand them.".

6.8.3.4.3 Insert at the end the following new sentence:
"When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.".

6.8.3.4.6 Add the following sentence, applicable to both columns, at the end of the current text after sub-paragraphs (a) and (b):

"When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.".

6.8.3.4.9 Replace the existing paragraph with the following:

"Leakproofness tests of tanks intended for the carriage of gases shall be performed at a pressure of not less than:

– For compressed gases, liquefied gases and dissolved gases: 20% of the test pressure;

– For refrigerated liquefied gases: 90% of the maximum working pressure.".

6.8.3.4.13 Replace "6.2.1.5" with "6.2.1.6".

6.8.3.5.3, 6.8.3.5.6 (b)
and 6.8.3.5.12 Amend the text of footnote 16 to read as follows:

"[16] *Instead of the proper shipping name or of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted, if applicable:*

- *for UN No. 1078 refrigerant gas, n.o.s: mixture F1, mixture F2, mixture F3;*
- *for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;*
- *for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement.;*
- *for UN 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.".*

6.8.3.5.11 In the right column, replace the fifth indent with the two following indents:

"- the tank code according to the certificate of approval (see 6.8.2.3.1) with the actual test pressure of the MEGC;

- the proper shipping name of the gases, and in addition, for gases classified under an n.o.s. entry, the technical name[16] of the gases for whose carriage the MEGC is used;".

(*Footnote 16 has the same wording as in paragraphs 6.8.3.5.3, 6.8.3.5.6 (b) and 6.8.3.5.12*).

6.8.3.6 Amend to read as follows:

"6.8.3.6 *Requirements for battery-vehicles and MEGCs which are not designed, constructed and tested according to standards*

NOTE: *Persons or bodies identified in standards as having responsibilities in accordance with ADR shall meet the requirements of ADR.*

The requirements of Chapter 6.8 are considered to have been complied with if the following standard is applied:

Applicable sub-sections and paragraphs	**Reference**	**Title of document**
6.8.3.1.4 and 6.8.3.1.5, 6.8.3.2.18 to 6.8.3.2.26, 6.8.3.4.10 to 6.8.3.4.12 and 6.8.3.5.10 to 6.8.3.5.13	EN 13807: 2003	Transportable gas cylinders - Battery vehicles - Design, manufacture, identification and testing

6.8.4 b) **TE1**: Amend to read as follows: "(*Reserved)*".

TE6: Amend to read as follows:
"Tanks may be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or under pressure inside the shell.".

TE10: Replace "solidified ammonium nitrate" with "the solidified substance".

TE14 : Delete the second sentence.

TE15 : Add at the end :
"For tanks intended for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, the negative pressure may be reduced to not less than 5 kPa (0.05 bar).".

Add the following new special provisions:
"**TE22** *(Reserved)*.

TE23 Tanks shall be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or underpressure inside the shell.

TE24 If tanks, intended for the carriage and handling of bitumen, are equipped with a spray bar at the end of the discharge pipe, the closing device, as required by 6.8.2.2.2, may be replaced by a shut-off valve, situated on the discharge pipe and preceding the spray bar.".

6.8.4 c) Add a new special provision TA3 as follows:
"**TA3** This substance may be carried only in tanks with the tank code LGAV or SGAV; the hierarchy in 4.3.4.1.2 is not applicable.".

6.8.4 (d) Add a new special provision TT8 as follows:

"**TT8** Tanks approved for the carriage of UN 1005 AMMONIA, ANHYDROUS and constructed of fine-grained steel with a yield strength of more than 400 N/mm^2 in accordance with the material standard, shall be subjected at each periodic test according to 6.8.2.4.2, to magnetic particle inspections to detect surface cracking.

For the lower part of each shell at least 20 % of the length of each circumferential and longitudinal weld shall, together with all nozzle welds and any repair or ground areas, be inspected."

6.8.5.1.1 a) Amend the second indent to read as follows:
"- UN Nos. 1366, 1370, 1380, 2005, 2445, 2845, 2870, 3051, 3052, 3053, 3076, 3194, 3391 to 3394 and 3433 of Class 4.2; and".

Chapter 6.9

6.9 In the NOTE under the title, delete "certified".

6.9.5.2 Add at the end:
"In addition, the inspection in accordance with 6.8.2.4.3 shall include an examination of the internal condition of the shell.".

Chapter 6.10

6.10 In the NOTE under the title, delete "certified".

6.10.3.6 Delete "allowed" before "working pressure" (twice).

6.10.3.8 In paragraph (f) (iii), delete "allowed" before "working pressure".

6.10.3.9 Amend to read as follows:
"The shells of vacuum-operated waste tanks shall be fitted with a safety valve preceded by a bursting disc.

The valve shall be capable of opening automatically at a pressure between 0.9 and 1.0 times the test pressure of the tank to which it is fitted. The use of dead weight or counterweight valves is prohibited.

The bursting disc shall burst at the earliest when the initial opening pressure of the valve is reached and at the latest when this pressure reaches the test pressure of the tank to which it is fitted.

Safety devices shall be of such a type as to resist dynamic stresses, including liquid surge.

The space between the bursting disc and the safety valve shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pinholing or leakage wich could cause a malfunction of the safety valve.".

6.10.4 Amend to read as follows:
"Vacuum-operated waste tanks shall be subject every three years for fixed tanks or demountable tanks and at least every two and a half years for tank-containers and tank swap bodies to an examination of the internal condition, in addition to the tests according to 6.8.2.4.3.".

Chapter 6.11

Add a new chapter 6.11 as follows and amend the table of contents accordingly:

"CHAPTER 6.11

REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF BULK CONTAINERS

6.11.1 Definitions

For the purposes of this section:

"Closed bulk container" means a totally closed bulk container having a rigid roof, sidewalls, end walls and floor (including hopper-type bottoms). The term includes bulk containers with an opening roof, side or end wall that can be closed during carriage. Closed bulk containers may be equipped with openings to allow for the exchange of vapours and gases with air and which prevent under normal conditions of carriage the release of solid contents as well as the penetration of rain and splash water;

"Sheeted bulk container" means an open top bulk container with rigid bottom (including hopper-type bottom), side and end walls and a non-rigid covering;

6.11.2 Application and general requirements

6.11.2.1 Bulk containers and their service and structural equipment shall be designed and constructed to withstand, without loss of contents, the internal pressure of the contents and the stresses of normal handling and carriage.

6.11.2.2 Where a discharge valve is fitted, it shall be capable of being made secure in the closed position and the whole discharge system shall be suitably protected from damage. Valves having lever closures shall be able to be secured against unintended opening and the open or closed position shall be readily apparent.

6.11.2.3 *Code for designating types of bulk container*

The following table indicates the codes to be used for designating types of bulk containers:

Types of bulk containers	**Code**
Sheeted bulk container	BK1
Closed bulk container	BK2

6.11.2.4 In order to take account of progress in science and technology, the use of alternative arrangements which offer at least equivalent safety as provided by the requirements of this chapter may be considered by the competent authority.

6.11.3 Requirements for the design, construction, inspection and testing of containers conforming to the CSC used as bulk containers

6.11.3.1 ***Design and construction requirements***

6.11.3.1.1 The general design and construction requirements of this sub-section are deemed to be met if the bulk container complies with the requirements of ISO 1496-4:1991 "Series 1 Freight containers- Specification and testing – Part 4: Non pressurized containers for dry bulk" and the container is siftproof.

6.11.3.1.2 Containers designed and tested in accordance with ISO 1496-1:1990 "Series 1 Freight containers- Specification and testing - Part 1: General cargo containers for general purposes" shall be equipped with operational equipment which is, including its connection to the container, designed to strengthen the end walls and to improve the longitudinal restraint as necessary to comply with the test requirements of ISO 1496-4:1991 as relevant.

6.11.3.1.3 Bulk containers shall be siftproof. Where a liner is used to make the container siftproof it shall be made of a suitable material. The strength of material used for, and the construction of, the liner shall be appropriate to the capacity of the container and its intended use. Joins and closures of the liner shall withstand pressures and impacts liable to occur under normal conditions of handling and carriage. For ventilated bulk containers any liner shall not impair the operation of ventilating devices.

6.11.3.1.4 The operational equipment of bulk containers designed to be emptied by tilting shall be capable of withstanding the total filling mass in the tilted orientation.

6.11.3.1.5 Any movable roof or side or end wall or roof section shall be fitted with locking devices with securing devices designed to show the locked state to an observer at ground level.

6.11.3.2 ***Service equipment***

6.11.3.2.1 Filling and discharge devices shall be so constructed and arranged as to be protected against the risk of being wrenched off or damaged during carriage and handling. The filling and discharge devices shall be capable of being secured against unintended opening. The open and closed position and direction of closure shall be clearly indicated.

6.11.3.2.2 Seals of openings shall be so arranged as to avoid any damage by the operation, filling and emptying of the bulk container.

6.11.3.2.3 Where ventilation is required bulk containers shall be equipped with means of air exchange, either by natural convection, e.g. by openings, or active elements, e.g. fans. The ventilation shall be designed to prevent negative pressures in the container at all times. Ventilating elements of bulk containers for the carriage of flammable substances or substances emitting flammable gases or vapours shall be designed so as not to be a source of ignition.

6.11.3.3 ***Inspection and testing***

6.11.3.3.1 Containers used, maintained and qualified as bulk containers in accordance with the requirements of this section shall be tested and approved in accordance with the CSC.

6.11.3.3.2 Containers used and qualified as bulk containers shall be inspected periodically according to the CSC.

6.11.3.4 ***Marking***

6.11.3.4.1 Containers used as bulk containers shall be marked with a Safety Approval Plate in accordance with the CSC.

6.11.4 Requirements for the design, construction and approval of bulk containers other than containers conforming to the CSC

NOTE: *When containers conforming to the provisions of this section are used for the carriage of solids in bulk, the following statement shall be shown on the transport document:*

"Bulk container BK(x) approved by the competent authority of ……". (see 5.4.1.1.17)".

6.11.4.1 Bulk containers covered in this section include skips, offshore bulk containers, bulk bins, swap bodies, trough shaped containers, roller containers, and load compartments of vehicles.

NOTE: *These bulk containers also include containers conforming to the UIC leaflets 590, 591 and 592-2 to 592-4 as mentioned in 7.1.3 which do not conform to the CSC.*

6.11.4.2 These bulk containers shall be designed and constructed so as to be strong enough to withstand the shocks and loadings normally encountered during carriage including, as applicable, transhipment between modes of transport.

6.11.4.3 *(Reserved).*

6.11.4.4 These bulk containers shall be approved by the competent authority and the approval shall include the code for designating types of bulk containers in accordance with 6.11.2.3 and the requirements for inspection and testing as appropriate.

6.11.4.5 Where it is necessary to use a liner in order to retain the dangerous goods it shall meet the provisions of 6.11.3.1.3.".

PART 7

Chapter 7.2

7.2.4 Amend special provision V7 to read as follows: "(*Reserved*)".

Chapter 7.3

7.3.1 and 7.3.2 Replace the text of current paragraphs 7.3.1 and 7.3.2 with the following:

"7.3.1 General provisions

7.3.1.1 Goods may not be carried in bulk in vehicles or containers unless:

(a) either a special provision, identified by the code BK, explicitly authorizing this mode of carriage is indicated in column (10) of Table A of Chapter 3.2 and the relevant conditions of 7.3.2 are satisfied in addition to those of this section; or

(b) a special provision, identified by the code VV, explicitly authorizing this mode of carriage is indicated in column (17) of Table A of Chapter 3.2 and the conditions of this special provision, as laid down in 7.3.3 are satisfied in addition to those of this section.

Nevertheless, empty packagings, uncleaned, may be carried in bulk if this mode of carriage is not explicitly prohibited by other provisions of ADR.

NOTE: *For carriage in tanks, see Chapters 4.2 and 4.3.*

7.3.1.2 Substances which may become liquid at temperatures likely to be encountered during carriage, are not permitted for carriage in bulk.

7.3.1.3 Containers or bodies of vehicles shall be siftproof and shall be so closed that none of the contents can escape under normal conditions of carriage including the effect of vibration, or by changes of temperature, humidity or pressure.

7.3.1.4 Bulk solids shall be loaded and evenly distributed in a manner that minimises movement that could result in damage to the container or vehicle or leakage of the dangerous goods.

7.3.1.5 Where venting devices are fitted they shall be kept clear and operable.

7.3.1.6 Bulk solids shall not react dangerously with the material of the container, vehicle, gaskets, equipment including lids and tarpaulins and with protective coatings which are in contact with the contents or significantly weaken them. Containers or vehicles shall be so constructed or adapted that the goods cannot penetrate between wooden floor coverings or come into contact with those parts of the container or vehicle that may be affected by the materials or residues thereof.

7.3.1.7 Before being filled and offered for carriage, each container or vehicle shall be inspected and cleaned to ensure that it does not contain any residue on the interior or exterior of the container or vehicle that could:

- cause a dangerous reaction with the substance intended for carriage;
- detrimentally affect the structural integrity of the container or vehicle; or
- affect the dangerous goods retention capabilities of the container or vehicle.

7.3.1.8 During carriage, no dangerous residues shall adhere to the outer surfaces of containers or of the bodies of vehicles.

7.3.1.9 If several closure systems are fitted in series, the system which is located nearest to the substance to be carried shall be closed first before filling.

7.3.1.10 Empty containers or vehicles which have carried a dangerous solid substance in bulk shall be treated in the same manner as is required by ADR for a filled container or vehicle, unless adequate measures have been taken to nullify any hazard.

7.3.1.11 If containers or vehicles are used for the carriage in bulk of goods liable to cause a dust explosion, or evolve flammable vapours (e. g. for certain wastes) measures shall be taken to exclude sources of ignition and prevent dangerous electrostatic discharge during carriage, filling or discharge of the substance.

7.3.1.12 Substances, for example wastes, which may react dangerously with one another and substances of different classes and goods not subject to ADR, which are liable to react dangerously with one another shall not be mixed together in the same container or vehicle. Dangerous reactions are:

(a) combustion and/or evolution of considerable heat;

(b) emission of flammable and/or toxic gases;

(c) formation of corrosive liquids; or

(d) formation of unstable substances.

7.3.1.13 Before a container or vehicle is filled it shall be visually examined to ensure it is structurally serviceable, its interior walls, ceiling and floors are free from protrusions or damage and that any inner liners or substance retaining equipment are free from rips, tears or any damage that would compromise its cargo retention capabilities. Structurally serviceable means the container or vehicle does not have major defects in its structural components, such as top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts, and corner fittings in a container. Major defects include:

(a) bends, cracks or breaks in the structural or supporting members that affect the integrity of the container or of the body of the vehicle;

(b) more than one splice or an improper splice (such as a lapped splice) in top or bottom end rails or door headers;

(c) more than two splices in any one top or bottom side rail;

(d) any splice in a door sill or corner post;

(e) door hinges and hardware that are seized, twisted, broken, missing, or otherwise inoperative;

(f) gaskets and seals that do not seal;

(g) any distortion of the overall configuration of a container great enough to prevent proper alignment of handling equipment, mounting and securing on a chassis or vehicle;

(h) any damage to lifting attachments or handling equipment interface features; or

(i) any damage to service or operational equipment.

7.3.2 Additional provisions for the carriage in bulk of goods of classes 4.2, 4.3, 5.1, 6.2, 7 and 8 when the provisions of 7.3.1.1 (a) are applied

7.3.2.1 The codes BK1 and BK2 in column (10) of Table A of Chapter 3.2 have the following meanings:

BK1: Carriage in bulk in sheeted containers or vehicles is permitted;
BK2: Carriage in bulk in closed containers or vehicles is permitted.

7.3.2.2 The container used or the body of the vehicle shall conform to the requirements of Chapter 6.11.

7.3.2.3 ***Goods of Class 4.2***

The total mass carried in a container or vehicle shall be such that its spontaneous ignition temperature is greater than 55 °C.

7.3.2.4 ***Goods of Class 4.3***

These goods shall be carried in containers or vehicles which are watertight.

7.3.2.5 ***Goods of Class 5.1***

Containers or vehicles shall be so constructed or adapted that the goods cannot come into contact with wood or any other incompatible material.

7.3.2.6 ***Wastes of Class 6.2 (UN No. 2900)***

(a) For wastes of UN No. 2900, sheeted containers or vehicles BK1 are permitted provided that they are not filled to maximum capacity to avoid substances coming into contact with the sheeting. Closed containers or vehicles BK2 are also permitted;

(b) Closed and sheeted containers or vehicles, and their openings, shall be leak-proof by design or by the fitting of a suitable liner;

(c) Wastes of UN No. 2900 shall be thoroughly treated with an appropriate disinfectant before loading prior to carriage;

(d) Wastes of UN No. 2900 in a sheeted container or vehicle shall be covered by an additional top liner weighted down by absorbent material treated with an appropriate disinfectant;

(e) Closed or sheeted containers or vehicles used for the carriage of wastes of UN No. 2900 shall not be re-used until after they have been thoroughly cleaned and disinfected.

7.3.2.7 ***Material of Class 7***

For the carriage of unpackaged radioactive material, see 4.1.9.2.3.

7.3.2.8 ***Goods of Class 8***

These goods shall be carried in containers or vehicles which are watertight.".

7.3.3 Add the following title to this paragraph: **"Special provisions for the carriage in bulk when the provisions of 7.3.1.1 (b) are applied"**

(Current text of paragraph 7.3.3 remains unchanged)

Add the following new special provisions:

"**VV15** Carriage in bulk is permitted in closed or sheeted vehicles, closed containers or sheeted large containers with complete walls for substances or mixtures (such as preparations or wastes) containing not more than 1000 mg/kg of substance to which this UN No is assigned.

The bodies of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining.

VV16 Carriage in bulk is permitted in accordance with the provisions of 4.1.9.2.3.

VV17 Carriage in bulk of SCO-I is permitted in accordance with the provisions of 4.1.9.2.3.".

Chapter 7.5

7.5.2.2 Amend the note "a" under the table to read as follows:
"[a] *Packages containing articles of compatibility group B and those containing substances or articles of compatibility group D may be loaded together on one vehicle or in one container provided they are effectively segregated such that there is no danger of transmission of detonation from the articles of compatibility group B to the substances or articles of compatibility group D. Segregation shall be achieved by the use of separate compartments or by placing one of the two types of explosive in a special containment system. Either method of segregation shall be approved by the competent authority.*".

7.5.10 Amend the beginning of the paragraph to read as follows:
"In the case of flammable gases, or liquids with a flash-point of 61°C or below, or UN No. 1361, carbon or carbon black, packing group II, a good electrical connection…" (*remainder of the paragraph unchanged*).

7.5.11 CV33 (1.1) (a)(ii) At the end, replace "; and" with: ", taking account of the exposures expected to be delivered by all other relevant sources and practices under control; and".

CV33 (3.3) (c) Add the following text at the end, after "vehicle": ", except for consignments carried under exclusive use, for which the radiation limits around the vehicle are set forth in (3.5) (b) and (c)".

CV33 (4.1) Amend to read as follows:
"Any group of packages, overpacks, and containers containing fissile material stored in transit in any one storage area shall be so limited that the total sum of the CSIs in the group does not exceed 50. Each group shall be stored so as to maintain a spacing of at least 6 m from other such groups.".

CV33 (5.5) Amend the beginning to read as follows: "A container, tank, intermediate bulk container or vehicle dedicated to the carriage of unpackaged radioactive material under exclusive use…".

Add the following new special provisions:
"CV34 Prior to carriage of pressure receptacles it shall be ensured that the pressure has not risen due to potential hydrogen generation.

CV35 If bags are used as single packagings, they shall be adequately separated to allow for the dissipation of heat.

CV36 Packages shall preferably be loaded in open or ventilated vehicles or open or ventilated containers. If this is not feasible and packages are carried in other closed vehicles or containers, the cargo doors of the vehicles or containers shall be marked with the following in letters not less than 25 mm high:

"WARNING
NO VENTILATION
OPEN WITH CAUTION"

This shall be in a language considered appropriate by the consignor.".

PART 8

Chapter 8.1

8.1.2.1 Add the following:
"(d) Means of identification, which include a photograph, for each crew member, in accordance with 1.10.1.4.".

Chapter 8.2

8.2.1.1 Amend the beginning of the paragraph to read:
"Drivers of vehicles carrying dangerous goods shall hold a certificate…".

8.2.1.2 Amend the beginning of the paragraph to read:
"Drivers of vehicles carrying dangerous goods shall attend …".

8.2.1.4 Delete "Irrespective of the permissible maximum mass of the vehicle,".

8.2.1.5 In the first sentence, replace "a refresher training course" with "refresher training" and "examinations" with "examination".

8.2.2.3.2 Add new subparagraph (n) to read:
"(n) instructions on behaviour in tunnels (prevention and safety, action in the event of fire or other emergencies, etc.).".

8.2.2.5.1 Amend to read as follows:
"Refresher training undertaken at regular intervals serves the purpose of bringing the drivers' knowledge up to date; it shall cover new technical, legal and substance-related developments."

8.2.2.5.2 Replace "courses" with "training".

8.2.2.5.3 Amend to read as follows:
"The duration of the refresher training including individual practical exercises shall be of at least two days."

8.2.2.5.4 Amend the end of the sentence to read: "…shall be permitted on each training day.".

8.2.2.7.3 Replace "courses" with "training".

8.2.2.7.3.1 Replace "a refresher training course" with "refresher training".

8.2.2.7.3.3 Insert, at the beginning, "In the examination" and delete "course".

8.2.2.8.2 Replace "a refresher course" with "refresher training" and delete "successfully".

8.2.3 Amend the heading to read:
"Training of persons other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road"

Amend the end of the last sentence of the paragraph to read:
"…or shipping agencies and drivers of vehicles other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road."

Chapter 8.5

8.5 **S1 (1) (a)** Delete "Irrespective of the permissible maximum mass of the vehicle,".

S11 (1) Delete "Irrespective of the permissible maximum mass of the vehicle,".

PART 9

Replace Chapters 9.1, 9.2 and 9.3 with the following:

"CHAPTER 9.1

SCOPE, DEFINITIONS AND REQUIREMENTS FOR THE APPROVAL OF VEHICLES

9.1.1 Scope and definitions

9.1.1.1 ***Scope***

The requirements of Part 9 shall apply to vehicles of categories N and O, as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3)[1], intended for the carriage of dangerous goods.

These requirements refer to vehicles, as regards their construction, type approval, ADR approval and annual technical inspection.

[1] *Document of the United Nations Economic Commission for Europe, TRANS/WP.29/78/Rev.1, as amended.*

9.1.1.2 ***Definitions***

For the purposes of Part 9:

"*Vehicle*" means any vehicle, whether complete, incomplete or completed, intended for the carriage of dangerous goods by road;

"*EX/II vehicle*" or "*EX/III vehicle*" means a vehicle intended for the carriage of explosives substances and articles (Class 1);

"*FL vehicle*" means:

(a) a vehicle intended for the carriage of liquids having a flash-point of not more than 61°C (with the exception of diesel fuel complying with standard EN 590:1993, gas oil, and heating oil (light) - UN No. 1202 - with a flash-point as specified in standard EN 590: 1993) in fixed tanks or demountable tanks with a capacity exceeding 1 m^3 or in tank-containers or portable tanks with an individual capacity exceeding 3 m^3; or,

(b) a vehicle intended for the carriage of flammable gases in fixed tanks or demountable tanks with a capacity exceeding 1 m^3 or in tank-containers, portable tanks or MEGCs with an individual capacity exceeding 3 m^3; or,

(c) a battery-vehicle with a total capacity exceeding 1 m^3 intended for the carriage of flammable gases;

"*OX vehicle*" means a vehicle intended for the carriage of hydrogen peroxide, stabilized or hydrogen peroxide, aqueous solution stabilized with more than 60% hydrogen peroxide (Class 5.1, UN No. 2015) in fixed tanks or demountable tanks with a capacity exceeding 1 m^3 or in tank-containers or portable tanks with an individual capacity exceeding 3 m^3;

"*AT vehicle*" means:

(a) a vehicle, other than FL or OX, intended for the carriage of dangerous goods in fixed tanks or demountable tanks with a capacity exceeding 1 m^3 or in tank-containers, portable tanks or MEGCs with an individual capacity exceeding 3 m^3; or,

(b) a battery-vehicle with a total capacity exceeding 1 m^3 other than a FL vehicle;

"*Complete vehicle*" means any vehicle which does not need any further completion (e.g. one stage built vans, lorries, tractors, trailers);

"*Incomplete vehicle*" means any vehicle which still needs completion in at least one further stage (e.g. chassis-cab, trailer chassis);

"*Completed vehicle*" means any vehicle which is the result of a multi-stage process (e.g. chassis or chassis-cab fitted with a bodywork);

"*Type-approved vehicle*" means any vehicle which has been approved in accordance with ECE Regulation N. 105 [2] or Directive 98/91/EC [3];

"*ADR approval*" means certification by a competent authority of a Contracting Party that a single vehicle intended for the carriage of dangerous goods satisfies the relevant technical requirements of this Part as an EX/II, EX/III, FL, OX, or AT vehicle;

9.1.2 Approval of EX/II, EX/III, FL, OX and AT vehicles

***NOTE*:** *No special certificates of approval shall be required for vehicles other than EX/II, EX/III, FL, OX and AT vehicles, apart from those required by the general safety regulations normally applicable to vehicles in the country of origin.*

9.1.2.1 *General*

EX/II, EX/III, FL, OX and AT vehicles shall comply with the relevant requirements of this Part.

Every complete or completed vehicle shall be subjected to a first inspection by the competent authority in accordance with the administrative requirements of this Chapter to verify conformity with the relevant technical requirements of Chapters 9.2 to 9.7.

The conformity of the vehicle shall be certified by the issue of a certificate of approval in accordance with 9.1.3.

When vehicles are required to be fitted with an endurance braking system, the manufacturer of the vehicle or his duly accredited representative shall issue a declaration of conformity with the relevant prescriptions of Annex 5 of ECE Regulation No. 13[4]. This declaration shall be presented at the first technical inspection.

9.1.2.2 *Requirements for type-approved vehicles*

At the request of the vehicle manufacturer or his duly accredited representative, vehicles subject to ADR approval according to 9.1.2.1 may be type-approved by a competent authority. The relevant technical requirements of Chapter 9.2 shall be considered to be fulfilled if a type approval certificate has been issued by a competent authority in accordance with ECE Regulation No. 105[2] or Directive 98/91/EC[3] provided that the technical requirements of the said Regulation or the said Directive correspond to those of Chapter 9.2 of this Part and provided that no modification of the vehicle alters its validity.

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[2] *Regulation No. 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features).*

[3] *Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No. L 011 of 16.01.1999, p. 0025 – 0036).*

[4] *ECE Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking).*

This type approval, granted by one Contracting Party, shall be accepted by the other Contracting Parties as ensuring the conformity of the vehicle when the single vehicle is submitted for inspection for ADR approval.

At the inspection for ADR approval, only those parts of the type-approved incomplete vehicle which have been added or modified in the process of completion shall be inspected for compliance with the applicable requirements of Chapter 9.2.

9.1.2.3 ***Annual technical inspection***

EX/II, EX/III, FL, OX and AT vehicles shall be subject to an annual technical inspection in their country of registration to make sure that they conform to the relevant requirements of this Part, and to the general safety regulations (concerning brakes, lighting, etc.) in force in their country of registration; if these vehicles are trailers or semi-trailers coupled behind a drawing vehicle, the drawing vehicle shall be subject to technical inspection for the same purposes.

The conformity of the vehicle shall be certified either by the extension of validity of the certificate of approval or by the issue of a new certificate of approval in accordance with 9.1.3.

9.1.3 Certificate of approval

9.1.3.1 Conformity of EX/II, EX/III, FL, OX and AT vehicles with the requirements of this Part is subject to a certificate of approval (certificate of ADR approval) issued by the competent authority of the country of registration for each vehicle whose inspection yields satisfactory results.

9.1.3.2 A certificate of approval issued by the competent authority of one Contracting Party for a vehicle registered in the territory of that Contracting Party shall be accepted, so long as its validity continues, by the competent authorities of the other Contracting Parties.

9.1.3.3 The certificate of approval shall have the same layout as the model shown in 9.1.3.5. Its dimensions shall be 210 mm × 297 mm (format A4). Both front and back may be used. The colour shall be white, with a pink diagonal stripe.

It shall be drawn up in the language or one of the languages of the country issuing it. If that language is not English, French or German, the title of the certificate of approval and any remarks under No. 11 shall also be drawn up in English, French or German.

The certificate of approval for a vacuum-operated waste tank-vehicle shall bear the following remark: "vacuum-operated waste tank-vehicle".

9.1.3.4 The validity of a certificate of approval shall expire not later than one year after the date of the technical inspection of the vehicle preceding the issue of the certificate. The next approval term shall, however, be related to the last nominal expiry date, if the technical inspection is performed within one month before or after that date.

However, in the case of tanks subject to compulsory periodic inspection this provision shall not mean that tightness (leakproofness) tests, hydraulic pressure tests or internal

inspections of tanks have to be carried out at intervals shorter than those laid down in Chapters 6.8 and 6.9.

9.1.3.5 ***Model for certificate of approval for vehicles carrying certain dangerous goods***

CERTIFICATE OF APPROVAL FOR VEHICLES
CARRYING CERTAIN DANGEROUS GOODS

This certificate testifies that the vehicle specified below fulfils the conditions prescribed by the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

1. Certificate No.:	**2. Vehicle manufacturer:**	**3. Vehicle Identification No.:**	**4. Registration number** (if any)**:**

5. Name and business address of carrier, operator or owner:

6. Description of vehicle: [1]

7. Vehicle designation(s) according to 9.1.1.2 of ADR: [2]
EX/II EX/III FL OX AT

8. Endurance braking system: [3]
☐ Not applicable
☐ The effectiveness according to 9.2.3.1.2 of ADR is sufficient for a total mass of the transport unit of ____ t [4]

9. Description of the fixed tank(s)/battery-vehicle (if any)**:**
9.1 Manufacturer of the tank:
9.2 Approval number of the tank/battery-vehicle:
9.3 Tank manufacturer's serial number/Identification of elements of battery-vehicle:
9.4 Year of manufacture:
9.5 Tank code according to 4.3.3.1 or 4.3.4.1 of ADR:
9.6 Special provisions according to 6.8.4 of ADR (if applicable):

10. Dangerous goods authorised for carriage:
The vehicle fulfils the conditions required for the carriage of dangerous goods assigned to the vehicle designation(s) in No. 7.

10.1 In the case of an EX/II or EX/III vehicle [3]
❑ goods of Class 1 including compatibility group J
❑ goods of Class 1 excluding compatibility group J

10.2 In the case of a tank-vehicle/battery-vehicle [3]
❑ only the substances permitted under the tank code and any special provisions specified in No. 9 may be carried [5]
or
❑ only the following substances (Class, UN number, and if necessary packing group and proper shipping name) may be carried:

Only substances which are not liable to react dangerously with the materials of the shell, gaskets, equipment and protective linings (if applicable) may be carried.

11. Remarks:

12. Valid until: Stamp of issuing service

Place, Date, Signature

[1] *According to the definitions for power-driven vehicles and for trailers of categories N and O as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) or in Directive 97/27/EC.*

[2] *Strike out what is not appropriate.*

[3] *Mark the appropriate.*

[4] *Enter appropriate value. A value of 44t will not limit the "registration / in-service maximum permissible mass" indicated in the registration document(s).*

[5] *Substances assigned to the tank code specified in No. 9 or to another tank code permitted under the hierarchy in 4.3.3.1.2 or 4.3.4.1.2, taking account of the special provision(s), if any.*

13. Extensions of validity	
Validity extended until	Stamp of issuing service, place, date, signature:

NOTE: *This certificate shall be returned to the issuing service when the vehicle is taken out of service; if the vehicle is transferred to another carrier, operator or owner, as specified in No. 5; on expiry of the validity of the certificate; and if there is a material change in one or more essential characteristics of the vehicle.*

CHAPTER 9.2

REQUIREMENTS CONCERNING THE CONSTRUCTION OF VEHICLES

9.2.1 EX/II, EX/III, FL, OX and AT vehicles shall comply with the requirements of this Chapter, according to the table below.

For vehicles other than of EX/II, EX/III, FL, OX and AT:

- the requirements of 9.2.3.1.1 (Braking equipment in accordance with ECE Regulation No. 13 or Directive 71/320/EEC) are applicable to all vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1997;

- the requirements of 9.2.5 (Speed limitation device in accordance with ECE Regulation No. 89 or Directive 92/6/EEC) are applicable to all motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987.

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	**EX/III**	**AT**	**FL**	**OX**	
9.2.2	**ELECTRICAL EQUIPMENT**						
9.2.2.2	Wiring		X	X	X	X	
9.2.2.3	Battery master switch						
9.2.2.3.1			X[a]		X [a]		[a] The last sentence of 9.2.2.3.1 is applicable to vehicles first registered (or which entered into service if registration is not mandatory) as from 1 July 2005.
9.2.2.3.2			X		X		
9.2.2.3.3					X		
9.2.2.3.4			X		X		
9.2.2.4	Batteries	X	X		X		
9.2.2.5	Permanently energized circuits						
9.2.2.5.1					X		
9.2.2.5.2			X				
9.2.2.6	Electrical installation at rear of cab		X		X		
9.2.3	**BRAKING EQUIPEMENT**						
9.2.3.1	General provisions	X	X	X	X	X	

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	**EX/III**	**AT**	**FL**	**OX**	
	Anti-lock braking system		X [b, d]	X [b, d]	X [b, d]	X [b, d]	[b] Applicable to vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1993 in respect of motor vehicles (tractors and rigid vehicles) having a maximum mass exceeding 16 tonnes and trailers (i.e. full trailers, semi-trailers and centre-axle trailers) with a maximum mass exceeding 10 tonnes. Applicable to motor vehicles authorized to tow trailers with a maximum mass exceeding 10 tonnes, first registered after 30 June 1995. Applicable to all vehicles which are first approved in accordance with 9.1.2 after 30 June 2001 regardless of the date on which they were first registered. [d] Mandatory compliance for all vehicles as from 1 January 2010.
	Endurance braking system		X [c, g]	X [c, g]	X [c, g]	X [c, g]	[c] Applicable to motor vehicles first registered after 30 June 1993 having a maximum mass exceeding 16 tonnes or authorized to tow a trailer with a maximum mass exceeding 10 tonnes. [g] Mandatory compliance for all motor vehicles as from 1 January 2010.
9.2.3.2	Emergency braking devices for trailers						
9.2.3.2.1		X					
9.2.3.2.2			X				
9.2.4	**PREVENTION OF FIRE RISKS**						
9.2.4.2	Vehicle cab					X	
9.2.4.3	Fuel tanks	X	X		X	X	

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	**EX/III**	**AT**	**FL**	**OX**	
9.2.4.4	Engine	X	X		X	X	
9.2.4.5	Exhaust system	X	X		X		
9.2.4.6	Vehicle endurance braking		X	X	X	X	
9.2.4.7	Combustion heaters						
9.2.4.7.1 9.2.4.7.2 9.2.4.7.5		X [e]	X [e]	X [e]	X [e]	X [e]	[e] Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999.
9.2.4.7.3 9.2.4.7.4					X [e]		[e] Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999.
9.2.4.7.6		X	X				
9.2.5	**SPEED LIMITATION DEVICE**	X [f]	X [f]	X [f]	X [f]	X [f]	[f] Applicable to motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987.
9.2.6	**COUPLING DEVICE OF TRAILERS**	X	X				

9.2.2 Electrical equipment

9.2.2.1 ***General provisions***

The electrical installation as a whole shall meet the provisions of 9.2.2.2 to 9.2.2.6 in accordance with the table of 9.2.1.

9.2.2.2 ***Wiring***

9.2.2.2.1 The size of conductors shall be large enough to avoid overheating. Conductors shall be adequately insulated. All circuits shall be protected by fuses or automatic circuit breakers, except for the following:

- from the battery to the cold start and stopping systems of the engine;
- from the battery to the alternator;
- from the alternator to the fuse or circuit breaker box;
- from the battery to the starter motor;
- from the battery to the power control housing of the endurance braking system (see 9.2.3.1.2), if this system is electrical or electromagnetic;
- from the battery to the electrical lifting mechanism for lifting the bogie axle.

The above unprotected circuits shall be as short as possible.

9.2.2.2.2 Cables shall be securely fastened and positioned in such a way that the conductors are adequately protected against mechanical and thermal stresses.

9.2.2.3 ***Battery master switch***

9.2.2.3.1 A switch for breaking the electrical circuits shall be placed as close to the battery as practicable. If a single pole switch is used it shall be placed in the supply lead and not in the earth lead.

9.2.2.3.2 A control device to facilitate the disconnecting and reconnecting functions of the switch shall be installed in the driver's cab. It shall be readily accessible to the driver and be distinctively marked. It shall be protected against inadvertent operation by either adding a protective cover, by using a dual movement control device or by other suitable means. Additional control devices may be installed provided they are distinctively marked and protected against inadvertent operation. If the control device(s) are electrically operated, the circuits of the control device(s) are subject to the requirements of 9.2.2.5.

9.2.2.3.3 The switch shall have a casing with protection degree IP 65 in accordance with IEC Standard 529.

9.2.2.3.4 The cable connections on the switch shall have protection degree IP 54. However, this does not apply if these connections are contained in a housing which may be the

battery box. In this case it is sufficient to insulate the connections against short circuits, for example with a rubber cap.

9.2.2.4 ***Batteries***

The battery terminals shall be electrically insulated or covered by an insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.

9.2.2.5 ***Permanently energized circuits***

9.2.2.5.1 (a) Those parts of the electrical installation including the leads which shall remain energized when the battery master switch is open, shall be suitable for use in hazardous areas. Such equipment shall meet the general requirements of IEC 60079, parts 0 and 14[1] and the additional requirements applicable from IEC 60079, parts 1, 2, 5, 6, 7, 11, 15 or 18[2] ;

(b) For the application of IEC 60079 part 14[1], the following classification shall be used:

Permanently energized electrical equipment including the leads which is not subject to 9.2.2.3 and 9.2.2.4 shall meet the requirements for Zone 1 for electrical equipment in general or meet the requirements for Zone 2 for electrical equipment situated in the driver's cab. The requirements for explosion group IIC, temperature class T6 shall be met.

However, for permanently energized electrical equipment installed in an environment where the temperature caused by non-electrical equipment situated in that environment exceeds the T6 temperature limit, the temperature classification of the permanently energized electrical equipment shall be at least that of the T4 temperature class.

(c) The supply leads for permanently energised equipment shall either comply with the provisions of IEC 60079, part 7 ("Increased safety") and be protected by a fuse or automatic circuit breaker placed as close to the source of power as practicable or, in the case of "intrinsically safe equipment", they shall be protected by a safety barrier placed as close to the source of power as practicable.

9.2.2.5.2 Bypass connections to the battery master switch for electrical equipment which must remain energized when the battery master switch is open shall be protected against overheating by suitable means, such as a fuse, a circuit breaker or a safety barrier (current limiter).

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[1] *The requirements of IEC 60079 part 14 do not take precedence over the requirement of this Part.*

[2] *As an alternative, the general requirements of EN 50014 and the additional requirements of EN 50015, 50016, 50017, 50018, 50019, 50020, 50021 or 50028 may be used.*

9.2.2.6 ***Provisions concerning that part of the electrical installation situated to the rear of the driver's cab***

The whole installation shall be so designed, constructed and protected such that it cannot provoke any ignition or short-circuit under normal conditions of use of vehicles and that these risks can be minimized in the event of an impact or deformation. In particular:

9.2.2.6.1 *Wiring*

The wiring located to the rear of the driver's cab shall be protected against impact, abrasion and chafing during normal vehicle operation. Examples of appropriate protection are given in figures 1, 2, 3 and 4 below. However, the sensor cables of anti-lock braking devices do not need additional protection.

FIGURES

Figure N°1

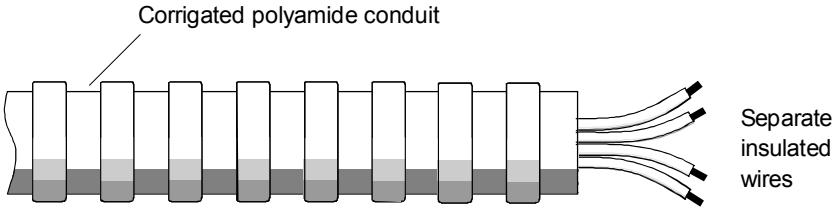


Figure N°2

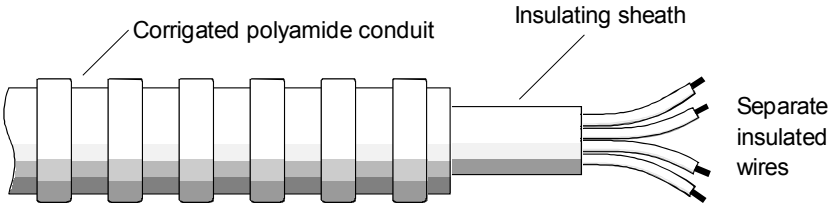


Figure N°3

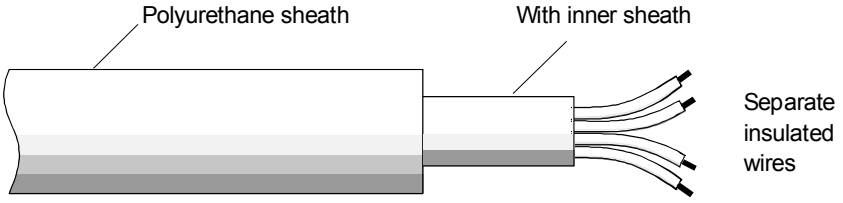
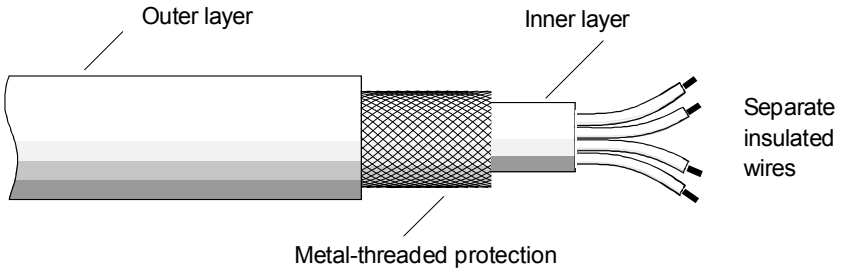


Figure N°4



9.2.2.6.2 *Lighting*

Lamp bulbs with a screw cap shall not be used.

9.2.2.6.3 *Electrical connections*

Electrical connections between motor vehicles and trailers shall have a protection degree IP54 in accordance with IEC standard 529 and be designed to prevent accidental disconnection. Examples of appropriate connections are given in ISO 12098:1994 and ISO 7638:1985.

9.2.3 Braking equipment

9.2.3.1 *General provisions*

9.2.3.1.1 Motor vehicles and trailers intended for use as transport units for dangerous goods shall fulfil all relevant technical requirements of ECE Regulation No.13[3] or Directive 71/320/EEC[4], as amended, in accordance with the dates of application specified therein.

9.2.3.1.2 EX/III, FL, OX and AT vehicles shall fulfil the requirements of ECE Regulation No.13[3], Annex 5.

9.2.3.2 Emergency braking devices for trailers

9.2.3.2.1 Trailers shall be equipped with an effective system for braking or restraining them if they become detached from the motor vehicle towing them.

9.2.3.2.2 Trailers shall be fitted with an effective braking device which acts on all the wheels, is actuated by the drawing vehicle's service-brake control and automatically stops the trailer in the event of breakage of the coupling.

9.2.4 Prevention of fire risks

9.2.4.1 *General provisions*

The following technical provisions shall apply in accordance with the table of 9.2.1.

9.2.4.2 *Vehicle cab*

Unless the driver's cab is made of materials which are not readily flammable, a shield made of metal or other suitable material of the same width as the tank shall be fitted at the rear of the cab. Any windows in the rear of the cab or in the shield shall be hermetically closed and made of fire-resistant safety glass with fire-resistant frames. Furthermore, there shall be a clear space of not less than 15 cm between the tank and the cab or the shield.

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[3] *ECE Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking).*

[4] *Directive 71/320/EEC (originally published in the Official Journal of the European Communities No. L202 of 6.9.1971).*

9.2.4.3 ***Fuel tanks***

The fuel tanks for supplying the engine of the vehicle shall meet the following requirements:

(a) In the event of any leakage, the fuel shall drain to the ground without coming into contact with hot parts of the vehicle or the load;

(b) Fuel tanks containing petrol shall be equipped with an effective flame trap at the filler opening or with a closure enabling the opening to be kept hermetically sealed.

9.2.4.4 ***Engine***

The engine propelling the vehicle shall be so equipped and situated to avoid any danger to the load through heating or ignition. In the case of EX/II and EX/III vehicles the engine shall be of compression-ignition construction.

9.2.4.5 ***Exhaust system***

The exhaust system (including the exhaust pipes) shall be so directed or protected to avoid any danger to the load through heating or ignition. Parts of the exhaust system situated directly below the fuel tank (diesel) shall have a clearance of at least 100 mm or be protected by a thermal shield.

9.2.4.6 ***Vehicle endurance braking***

Vehicles equipped with endurance braking systems emitting high temperatures placed behind the rear wall of the driver's cab shall be equipped with a thermal shield securely fixed and located between this system and the tank or load so as to avoid any heating, even local, of the tank wall or the load.

In addition, the thermal shield shall protect the braking system against any outflow or leakage, even accidental, of the load. For instance, a protection including a twin-shell shield shall be considered satisfactory.

9.2.4.7 ***Combustion heaters***

9.2.4.7.1 Combustion heaters shall comply with the relevant technical requirements of Directive 2001/56/EC[5] in accordance with the dates of implementation specified therein and the provisions of 9.2.4.7.2 to 9.2.4.7.6 applicable according to the table in 9.2.1.

9.2.4.7.2 The combustion heaters and their exhaust gas routing shall be designed, located, protected or covered so as to prevent any unacceptable risk of heating or ignition of the load. This requirement shall be considered as fulfilled if the fuel tank and the exhaust system of the appliance conform to provisions similar to those prescribed for fuel tanks and exhaust systems of vehicles in 9.2.4.3 and 9.2.4.5 respectively.

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[5] *Directive 2001/56/EC of the European Parliament and of the Council of 27 September 2001 relating to heating systems for motor vehicles and their trailers (initially published in the Official Journal of the European Communities No. L292 of 9 November 2001).*

9.2.4.7.3 The combustion heaters shall be put out of operation by at least the following methods:

(a) Intentional manual switching off from the driver's cab;

(b) Stopping of the vehicle engine; in this case the heating device may be restarted manually by the driver;

(c) Start up of a feed pump on the motor vehicle for the dangerous goods carried.

9.2.4.7.4 After running is permitted after the combustion heaters have been put out of operation. For the methods of 9.2.4.7.3 (b) and (c) the supply of combustion air shall be interrupted by suitable measures after an afterrunning cycle of not more than 40 seconds. Only heaters shall be used for which proof has been furnished that the heat exchanger is resistant to the reduced afterrunning cycle of 40 seconds for the time of their normal use.

9.2.4.7.5 The combustion heater shall be switched on manually. Programming devices shall be prohibited.

9.2.4.7.6 Combustion heaters with gaseous fuels are not permitted.

9.2.5 ***Speed limitation device***

Motor vehicles (rigid vehicles and tractors for semi-trailers) with a maximum mass exceeding 12 tonnes, shall be equipped with a speed limitation device according to the technical requirements of ECE Regulation No. 89[6], as amended. The device shall be set in such a way that the speed cannot exceed 90 km/h, bearing in mind the technological tolerance of the device.

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[6] *ECE Regulations No. 89: uniform provisions concerning the approval of:*

I. Vehicles with regard to limitation of their maximum speed;

II. Vehicles with regard to the installation of a speed limitation device (SLD) of an approved type;

III. Speed limitation devices (SLD).

As an alternative, the corresponding provisions of directive 92/6/EEC of the Council of 10 February 1992 (originally published in the Official Journal of the European Communities No. L 057 of 02.03.1992) and directive 92/24/EEC of the Council of 31 March 1992 (originally published in the Official Journal of the European Communities No. L 129 of 14.05.1992), as amended, may apply provided that they have been amended in accordance with the latest amended form of ECE Regulation No. 89 applicable at the time of the vehicle approval.

9.2.6 Coupling devices of trailers

Coupling devices of trailers shall comply with the technical requirements of ECE Regulation No. 55[7] or Directive 94/20/EC[8], as amended, in accordance with the dates of application specified therein.

[7] *ECE Regulation No. 55 (Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles).*

[8] *Directive 94/20/EC of the European parliament and of the Council of 30 of May 1994 (originally published in the Official Journal of the European Communities No. L 195 of 29.07.1994).*

CHAPTER 9.3

ADDITIONAL REQUIREMENTS CONCERNING COMPLETE OR COMPLETED EX/II OR EX/III VEHICLES

9.3.1 Materials to be used in the construction of vehicle bodies

No materials likely to form dangerous compounds with the explosive substances carried shall be used in the construction of the body.

9.3.2 Combustion heaters

9.3.2.1 Combustion heaters may only be installed on EX/II and EX/III vehicles for heating of the driver's cab or the engine.

9.3.2.2 Combustion heaters shall meet the requirements of 9.2.4.7.1, 9.2.4.7.2, 9.2.4.7.5 and 9.2.4.7.6.

9.3.2.3 The switch of the combustion heater may be installed outside the driver's cab.

It is not necessary to prove that the heat exchanger is resistant to the reduced after running cycle.

9.3.2.4 No combustion heaters or fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment.

9.3.3 EX/II vehicles

The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather. They shall be either closed or sheeted. Sheeting shall be resistant to tearing and be of impermeable material, not readily flammable[1]. It shall be tautened so as to cover the loading area on all sides.

All openings in the load compartment of closed vehicles shall have lockable, close-fitting doors or rigid covers. The driver's compartment shall be separated from the load compartment by a continuous wall.

9.3.4 EX/III vehicles

9.3.4.1 The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather. These vehicles shall be closed. The driver's compartment shall be separated from the load compartment by a continuous wall. The loading surface shall be continuous. Load restraint anchorage points may be

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[1] *In the case of flammability, this requirement will be deemed to be met if, in accordance with the procedure specified in ISO standard 3795:1989 'Road vehicles, and tractors and machinery for agriculture and forestry - Determination of burning behaviour of interior materials', samples of the sheeting have a burn rate not exceeding 100 mm/min.*

installed. All joints shall be sealed. All openings shall be capable of being locked. They shall be so constructed and placed as to overlap at the joints.

9.3.4.2 The body shall be made from heat and flame resistant materials with a minimum thickness of 10 mm. Materials classified as Class B-S3-d2 according to standard EN 13501-1: 2002 are deemed to fulfil this requirement.

If the material used for the body is metal, the complete inside of the body shall be covered with materials fulfilling the same requirement.

9.3.5 Engine and load compartment

The engine propelling an EX/II or EX/III vehicle shall be placed forward of the front wall of the load compartment; it may nevertheless be placed under the load compartment, provided this is done in such a way that any excess heat does not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 ºC.

9.3.6 External heat sources and load compartment

The exhaust system of EX/II and EX/III vehicles or others parts of these complete or completed vehicles shall be so constructed and situated that any excess heat shall not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 ºC.

9.3.7 Electrical equipment

9.3.7.1 The rated voltage of the electrical system shall not exceed 24V.

9.3.7.2 Any lighting in the load compartment of EX/II vehicles shall be on the ceiling and covered, i.e. with no exposed wiring or bulb.

In the case of Compatibility Group J, the electrical installation shall be at least IP65 (e.g. flame-proof Eex d). Any electrical equipment accessible from the inside of the load compartment shall be sufficiently protected from mechanical impact from the inside.

9.3.7.3 The electrical installation on EX/III vehicles shall meet the requirements of 9.2.2.2, 9.2.2.3, 9.2.2.4, 9.2.2.5.2 and 9.2.2.6.

The electrical installation in the load compartment shall be dust-protected (at least IP54 or equivalent) or, in the case of Compatibility Group J, at least IP65 (e.g. flame-proof Eex d).".

Chapter 9.5

9.5.3 Amend to read as follows:

"9.5.3 The bodies of vehicles intended for the carriage of dangerous solids in bulk shall meet the requirements of Chapters 6.11 and 7.3, as appropriate, including those of 7.3.2 or 7.3.3 which may be applicable in accordance with the indications in columns (10) or (17) respectively of Table A of Chapter 3.2 for a given substance.".
