



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.15/AC.2/17/Add.1  
8 April 2004

ENGLISH  
Original: ENGLISH AND  
FRENCH

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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Dangerous Goods

Joint Meeting of Experts on the Regulations annexed to the  
European Agreement concerning the International Carriage  
of Dangerous Goods by Inland Waterways (ADN)

**REPORT OF THE JOINT MEETING OF EXPERTS  
ON ITS EIGHTH SESSION\***

**(26-29 January 2004)**

**Addendum 1**

**Consolidated text of the amendments to the 2003 version of the Regulations annexed  
to ADN adopted by the Meeting of Experts at its seventh and eighth sessions.**

This document contains the consolidated list of amendments to the Regulations annexed to ADN adopted by the Meeting of Experts at its seventh and eighth sessions (see TRANS/WP.15/AC.2/15, TRANS/WP.15/AC.2/15/Add.1 and TRANS/WP.15/AC.2/17).

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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 and 5.2.2.1.11.4.*

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)\*\*".

In ADN, these acronyms appear also in Table of Contents of Volume 2, for 2.2.7.6 and 2.2.7.8.

## **PART 1**

### ***Chapter 1.1***

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

1.1.3.2 (f) Amend 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"

1.1.3.6.1 (a) Insert a new indent (iv) and renumber accordingly the following indents:

"(iv) substances of Class 6.2, Group A;"

1.1.3.6.1 (b) (ii) Insert at the end: ", except substances of Class 6.1."

1.1.4.2.2 Add the following at the end:

"...except that, when additional information is required by ADN, 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 of ADR; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 of ADR, 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 of ADR and vacuum valves, as allowed by special provision TE15 of 6.8.4 of ADR."

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 "*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 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<sup>3</sup>.

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

"*Instruction*" means transmitting know-how or teaching how to do something or how to act. This transmission or teaching may be dispensed internally by the personnel;

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

"*Not readily flammable*" means a material which is not in itself readily flammable or whose outer surface at least is not readily flammable and limits the propagation of a fire to an appropriate degree.

In order to determine flammability, the IMO procedure, Resolution A.653(16), or any equivalent requirements of a Contracting State are recognized;

"*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;

"*Training*" means teaching instruction, courses or apprenticeships dispensed by an organizer approved by the competent authority;".

### **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."

1.3.2.2.4 Read:

“1.3.2.2.4 Persons wearing self-contained breathing apparatus shall be physically able to bear the additional constraints.

They shall:

- in the case of devices operating with pressurized air, be trained in their handling and maintenance;
- in the case of devices supplied with pressurized air through a hose, be trained in their handling and maintenance.”

#### **Chapter 1.4**

1.4.2 Add a note under the title to read as follows:

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

1.4.2.3.1 Add (f) and (g) worded as follows:

- “(f) ascertain that the seals he has put in place to ensure that the connections between the vessel’s loading and discharging hoses are leakproof are made of a material which is not attacked by the cargo, which does not cause the decomposition of the cargo and does not cause a harmful or dangerous reaction with the cargo;
- (g) ascertain that permanent and appropriate surveillance is ensured for the entire duration of loading or discharging;”

Under “Obligations concerning the filling of tanks,” add:

- (s) he shall, after filling the tank, check the leakproofness of the closing devices;
- (t) he shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him.”

Under “Obligations concerning the bulk loading of dangerous solids in vessels,” (s), (t) and (u) become (u), (v) and (w).

#### **Chapter 1.6**

Add:

“1.6.1.5-1.6.1.7 (Reserved).

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 (Reserved).

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.”

**Chapter 1.7**

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 ADN 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**

1.8.3.3 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, holders need not undertake the case study specified in 1.8.3.12 (b)."

Add the following paragraphs:

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

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

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

*Loss of product* means the release of dangerous goods

- (a) substances of Classes 1 or 2 or packing group I in quantities of 50 kg or 50 litres or more, or other substances not assigned to a packing group;
- (b) substances of packing group II in quantities of 333 kg or 333 litres or more; or
- (c) substances of packing group III in quantities of 1,000 kg or 1,000 litres or more.

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

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

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

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

*NOTE: See the provisions of 7.5.11 CV33 (6) of ADR or of 7.5.11 CW33 (6) of RID for undeliverable consignments.*

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

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

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

1.8.5.4 The Contracting Parties may establish a standard format for these reports."

### ***Chapter 1.10***

Renumber Chapter 1.10 as 1.12. As a consequence, replace "1.10" with "1.12" in the definition of "*Classification society (recognized)*" in 1.2.1. Amend accordingly references to these Chapters.

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 minimize 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 vessel carrying dangerous goods shall carry with them means of identification, which includes their photograph, during carriage.

1.10.1.5 (Reserved).

1.10.1.6 The competent authority shall maintain up-to-date registers of all valid training certificates for experts 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 vessel, 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 ADN.

**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 vessel 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 The requirements of 1.10.1, 1.10.2 and 1.10.3 do not apply when the quantities carried in packages on a vessel do not exceed those referred to in 1.1.3.6.1.
- 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 letter F)	3000	a	b
	Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols	0	a	0
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 <sub>1</sub> (special form) or 3000 A <sub>2</sub> , 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 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:

"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 Group I, II and III to read as follows:

Packing Group	Flash-point (closed cup)	Initial boiling point
I	--	≤ 35°C
II <sup>a</sup>	< 23°C	> 35°C
III <sup>a</sup>	≥ 23°C and ≤ 61°C	> 35°C

<sup>a</sup> 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 of ADR, packing instruction IBC520 and those already permitted for carriage in tanks according to Chapter 4.2 of ADR are listed in 4.2.5.2 of ADR, 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 of ADR, packing instruction IBC520 or 4.2.5.2 of ADR, 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 of ADR, packing instruction P520 (see also 4.1.7.1 of ADR). 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 of ADR, packing instruction IBC520 and, for those permitted in tanks according to Chapter 4.2 of ADR, see 4.2.5.2 of ADR, 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 ALKYL, 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 Classes 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 of ADR, 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 of ADR, 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 of ADR packing instruction IBC520 or 4.2.5.2 of ADR, 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 of ADR packing instruction P520 (see also 4.1.7.1 of ADR). 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 of ADR, packing instruction IBC520 and, for those permitted in tanks according to Chapters 4.2 and 4.3 of ADR, see 4.2.5.2 of ADR, 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 Number	Replace "OP8" with "OP7" Replace "3107" with "3105"
tert-BUTYL CUMYL PEROXIDE	(1 <sup>st</sup> row)	Packing method Number	Replace "OP7" with "OP8" Replace "3105" with "3107"
	(2 <sup>nd</sup> row)	Concentration Inert solid Packing method Number	Replace " $\leq 42$ " with " $\leq 52$ " Replace " $\geq 58$ " with " $\geq 48$ " Replace "OP7" with "OP8" Replace "3106" with "3108"
n-BUTYL-4,4-DI-(tert-BUTYLPEROXY)VALERATE	(2 <sup>nd</sup> row)		Delete
	(3 <sup>rd</sup> row)	Concentration Inert solid	Replace " $\leq 42$ " with " $\leq 52$ " Replace " $\geq 58$ " with " $\geq 48$ "
tert-BUTYL HYDROPEROXIDE	(4 <sup>th</sup> row)	Packing method	Delete ",N,M"
tert-BUTYL MONOPEROXYPHthalate			Delete
tert-BUTYL PEROXYACETATE	(3 <sup>rd</sup> row)	Diluent type A Diluent type B Packing method	Delete " $\geq 68$ " Add " $\geq 68$ " Delete ",N"
	(4 <sup>th</sup> and 5 <sup>th</sup> rows)		Delete
tert-BUTYL PEROXYBENZOATE	(1 <sup>st</sup> row)	Diluent type A	Delete "< 22"
tert-BUTYL PEROXYDIETHYLACETATE + tert-BUTYL PEROXYBENZOATE			Delete
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	5 <sup>th</sup> and 6 <sup>th</sup> rows		Delete

Organic peroxide		Column	Amendment
tert-BUTYL PEROXYNEODECANOATE	(3 <sup>rd</sup> row)	Delete	
	(4 <sup>th</sup> row)	Number	Replace "3117" with "3119"
	(6 <sup>th</sup> row)	Packing method	Delete ",N"
tert-BUTYL PEROXYPIVALATE	(4 <sup>th</sup> and 5 <sup>th</sup> rows)	Delete	
3-tert-BUTYLPEROXY-3-PHENYLPHTHALIDE		Delete	
tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	(2 <sup>nd</sup> row)	Diluent type A	Delete "≥ 68"
		Diluent type B	Add "≥ 68"
		Packing method	Delete ", N"
	(3 <sup>rd</sup> row)	Delete	
CUMYL HYDROPEROXIDE	(2 <sup>nd</sup> row)	Packing method	Delete ", M, N"
CUMYL PEROXYNEODECANOATE	(3 <sup>rd</sup> row)	Delete	
DIBENZOYL PEROXIDE	(8 <sup>th</sup> row)	Delete	
	(11 <sup>th</sup> row)	Packing method	Delete ",N"
DIBENZYL PEROXYDICARBONATE		Delete	
DI-(4-tert-BUTYLCYCLOHEXYL) PEROXYDICARBONATE	(2 <sup>nd</sup> row)	Packing method	Delete ",N"
DI-tert-BUTYL PEROXIDE	(1 <sup>st</sup> row)	Concentration	Replace ">32" with ">52"
	(2 <sup>nd</sup> row)	Packing method	Delete ",N"
	(3 <sup>rd</sup> row)	Delete	
1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE	(5 <sup>th</sup> row)	Diluent type A	Replace "≥ 36" with "≥ 25"
	(6 <sup>th</sup> row)	Packing method	Delete ",N"
1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE	(3 <sup>rd</sup> row)	Packing method Number	Replace "OP7" with "OP5" Replace "3105" with "3103"
	(4 <sup>th</sup> row)	Packing method Number	Replace "OP7" with "OP8" Replace "3106" with "3110"
DICETYL PEROXYDICARBONATE	(2 <sup>nd</sup> row)	Packing method	Delete ",N"
DICUMYL PEROXIDE	(1 <sup>st</sup> row)	Concentration	Replace "42" with "52"
		Packing method	Delete ",M"
DICYCLOHEXYL PEROXYDICARBONATE	(1 <sup>st</sup> and 2 <sup>nd</sup> rows)	Control temperature	Replace "+5" with "+10"
		Emergency temperature	Replace "+10" with "+15"
DI-(2-ETHYLHEXYL) PEROXYDICARBONATE	(4 <sup>th</sup> row)	Delete	
	(6 <sup>th</sup> row)	Concentration Number	Replace "42" with "52" Replace "3118" with "3120"
DIETHYL PEROXYDICARBONATE		Delete	
DIISOTRIDECYL PEROXYDICARBONATE		Delete	
DILAULOYL PEROXIDE	(2 <sup>nd</sup> row)	Packing method	Delete ",N"

Organic peroxide		Column	Amendment
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE	(2 <sup>nd</sup> row)		Delete
DIMYRISTYL PEROXYDICARBONATE	(3 <sup>rd</sup> row)		Delete
DIPEROXY AZELAIC ACID			Delete
DIPEROXY DODECANE DIACID			Delete
DISTEARYL PEROXYDICARBONATE			Delete
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	(2 <sup>nd</sup> row)	Packing method	Delete ", N"
	(4 <sup>th</sup> and 5 <sup>th</sup> 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"
p-MENTHYL HYDROPEROXIDE	(2 <sup>nd</sup> row)	Packing method	Delete ", M, N"
METHYL ETHYL KETONE PEROXIDE(S)	(1 <sup>st</sup> row)	Concentration	Replace " $\leq 52$ " with "see remark 8"
	(2 <sup>nd</sup> row)	Concentration	Replace " $\leq 45$ " with "see remark 9"
	(3 <sup>rd</sup> row)	Concentration	Replace " $\leq 40$ " with "see remark 10"
	(4 <sup>th</sup> row)		Delete
PEROXYACETIC ACID, TYPE F, stabilized	(1 <sup>st</sup> row)	Packing method	Delete ", N"
PINANYL HYDROPEROXIDE	(1 <sup>st</sup> row)	Concentration	Replace "56" with ">56"
	(2 <sup>nd</sup> row)	Concentration Diluent type A Packing method	Replace "<56" with " $\leq 56$ " Replace ">44" with " $\geq 44$ " Delete ", M"
TETRAHYDRONAPHTHYL HYDROPEROXIDE			Delete
1,1,3,3-TETRAMETHYLBUTYL PEROXY-2 ETHYLHEXANOATE		Control temperature	Replace "+20" with "+15"
		Emergency temperature	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	$\leq 77$	$\geq 23$				OP5			3103	
tert-BUTYL PEROXYNEO-HEPTANOATE (new second row)	$\leq 42$ as a stable dispersion in water					OP8	0	+10	3117	
1,6-Di-(tert-BUTYLPEROXY-CARBONYLOXY) HEXANE	$\leq 72$	$\geq 28$				OP5			3103	
DICYCLOHEXYL PEROXYDICARBONATE	$\leq 42$ as a stable					OP8	+15	+20	3119	

<b>Organic peroxide</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>
<i>(new third row)</i>	dispersion in water									
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<sub>50</sub> for acute oral toxicity*" with the following text:

*"LD<sub>50</sub> (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<sub>50</sub> 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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>"

"3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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 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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>

3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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

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

Insert a new footnote "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 ADN."*

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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>
- 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>
- 3386 TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>
- 3388 TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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<sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC<sub>50</sub>
- 3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

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<sup>3</sup> and saturated vapour concentration greater than or equal to = 500 LC<sub>50</sub>

3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m<sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC<sub>50</sub>".

## Section 2.2.62

2.2.62.1.1 Amend to read as follows:

2.2.62.1.1 The heading of Class 6.2 covers infectious substances. For the purposes of ADN, 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.

Delete 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 ADN,

*"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.*

<b>INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A IN ANY FORM UNLESS OTHERWISE INDICATED (2.2.62.1.4.1)</b>	
<b>UN Number and name</b>	<b>Micro-organism</b>
<b>UN No. 2814</b> Infectious substances affecting humans	<i>Bacillus anthracis</i> (cultures only) <i>Brucella abortus</i> (cultures only) <i>Brucella melitensis</i> (cultures only) <i>Brucella suis</i> (cultures only) <i>Burkholderia mallei</i> - <i>Pseudomonas mallei</i> – Glanders (cultures only) <i>Burkholderia pseudomallei</i> – <i>Pseudomonas pseudomallei</i> (cultures only) <i>Chlamydia psittaci</i> - avian strains (cultures only) <i>Clostridium botulinum</i> (cultures only) <i>Coccidioides immitis</i> (cultures only) <i>Coxiella burnetii</i> (cultures only)

<b>INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A IN ANY FORM UNLESS OTHERWISE INDICATED (2.2.62.1.4.1)</b>	
<b>UN Number and name</b>	<b>Micro-organism</b>
	<p>Crimean-Congo hemorrhagic fever virus  Dengue virus (cultures only)  Eastern equine encephalitis virus (cultures only)  <i>Escherichia coli</i>, verotoxigenic (cultures only)  Ebola virus  Flexal virus  <i>Francisella tularensis</i> (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  Kysanur Forest disease virus  Lassa virus  Machupo virus  Marburg virus  Monkeypox virus  <i>Mycobacterium tuberculosis</i> (cultures only)  Nipah virus  Omsk hemorrhagic fever virus  Poliovirus (cultures only)  Rabies virus  <i>Rickettsia prowazekii</i> (cultures only)  <i>Rickettsia rickettsii</i> (cultures only)  Rift Valley fever virus  Russian spring-summer encephalitis virus (cultures only)  Sabia virus  <i>Shigella dysenteriae type 1</i> (cultures only)  Tick-borne encephalitis virus (cultures only)</p>
	<p>Variola virus  Venezuelan equine encephalitis virus  West Nile virus (cultures only)  Yellow fever virus (cultures only)  <i>Yersinia pestis</i> (cultures only)</p>

<b>INDICATIVE EXAMPLES OF INFECTIOUS SUBSTANCES INCLUDED IN CATEGORY A IN ANY FORM UNLESS OTHERWISE INDICATED (2.2.62.1.4.1)</b>	
<b>UN Number and name</b>	<b>Micro-organism</b>
<b>UN No. 2900</b> 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 <i>Mycoplasma mycoides</i> - 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 ADN 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 ADN.

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 ADN. 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.

2.2.62.1.9 *Biological products*

For the purposes of ADN, 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 ADN;
- (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 No. 2814, UN No. 2900 or UN No. 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 ADN 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.

**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 (b), replace the text with "Reserved".

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 conveyance."

2.2.7.7.2.1 In the table, for "Cf-252", replace " $5 \times 10^{-2}$ " with " $1 \times 10^{-1}$ " 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 replace "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 2.2.7.2.1, 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 ADN 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<sup>11</sup>, as amended, as substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated, are not subject to ADN.

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<sup>12</sup>, as amended, they are

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<sup>11</sup> Official Journal of the European Communities No.196, of 16 August 1967, pp. 1 – 5.

<sup>12</sup> Official Journal of the European Communities No. L 200, of 30 July 1999, pp. 1 – 68.

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 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 ADN when authorized for use by the competent authorities of the countries of origin, transit and destination.<sup>13</sup>*

***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 Classes 4.2 or 4.3, as appropriate, in accordance with the flowchart scheme given in Figure 2.3.6.

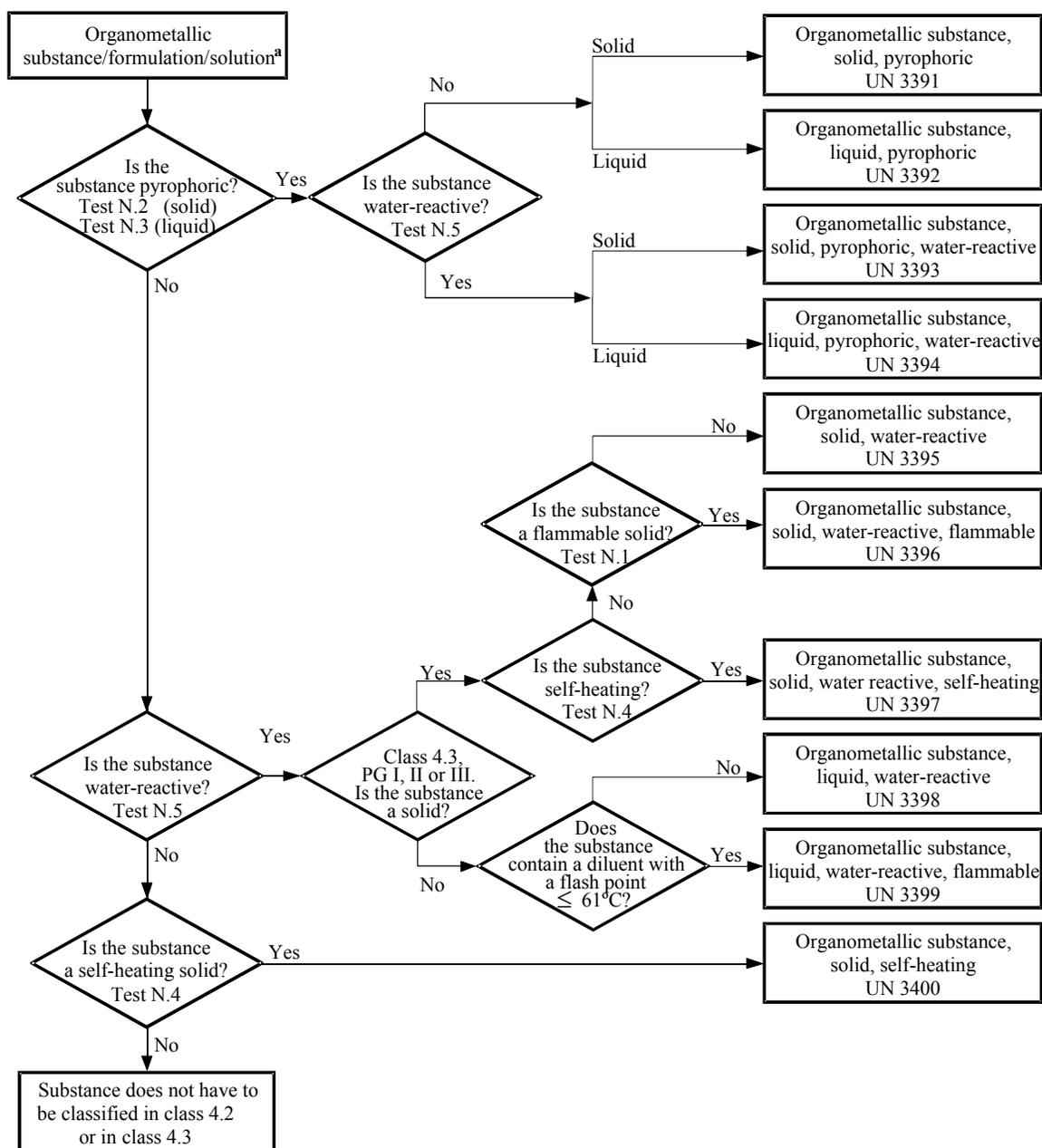
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<sup>13</sup> See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal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

**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.*

**Figure 2.3.6: Flowchart scheme for the classification of organometallic substances in Classes 4.2 and 4.3<sup>b</sup>**



<sup>a</sup> If applicable and testing is relevant, taking into account reactivity properties, class 6.1 and 8 properties should be considered according to the precedence of hazard table of 2.1.3.10.

<sup>b</sup> 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<sup>1</sup>."

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***

#### ***Table A***

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

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

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*).

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<sup>1</sup> *Details are provided in the alphabetical index (Table B of 3.2), e.g.:*  
*NITROXYLENES, LIQUID 6.1 1665*  
*NITROXYLENES, SOLID 6.1 3447.*

UN Nos.	Column	Amendment
0336	(6)	Add "651"
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".
1057	(6)	Add "201"
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"
1366	(6)	Add "320"
1370	(6)	Add "320"
1389	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
1392	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
1420	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
1422	(2)	Add ", LIQUID" at the end
	(3b)	Replace "W2" with "W1"
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"
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"
1597 (solid)	(1)	Replace "1597" with "3443"
1656 (liquid or solution)	(2)	Amend the name to read as follows: "NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION"
1656 (solid)	(1)	Replace "1656" with "3444"
	(2)	Replace "solid" with "SOLID"
1658 (solid)	(1)	Replace "1658" with "3445"
1664 (solid)	(1)	Replace "1664" with "3446"
1665 (solid)	(1)	Replace "1665" with "3447"
1693 (solid, PG I)	(1)	Replace "1693" with "3448"
1693 (solid, PG II)	(1)	Replace "1693" with "3448"
1694 (solid)	(1)	Replace "1694" with "3449"

<b>UN Nos.</b>	<b>Column</b>	<b>Amendment</b>
1697	(2)	Add ", SOLID" at the end
	(3b)	Replace "T1" with "T2"
	(7)	Replace "LQ17" with "LQ18"
1699 (solid)	(1)	Replace "1699" with "3450"
1701	(2)	Add ", LIQUID" at the end
1708 (solid)	(1)	Replace "1708" with "3451"
1711 (solid)	(1)	Replace "1711" with "3452"
1729	(3b)	Replace "C3" with "C4"
	(7)	"LQ22" with "LQ23"
1742	(2)	Add ", LIQUID" at the end
1743	(2)	Add ", LIQUID" at the end
1748	(6)	Add "313" and "314"
1805 (liquid)	(2)	Replace "LIQUID" with "SOLUTION"
1805 (solid)	(1)	Replace "1805" with "3453"
	(8)	Delete "T"
1835	(2)	Add "SOLUTION" at the end
1843	(2)	Add ", SOLID" at the end
1938	(2)	Add "SOLUTION" at the end
2003	Delete	
2005	(6)	Add "320"
2038 (solid)	(1)	Replace "2038" with "3454"
2076 (solid)	(1)	Replace "2076" with "3455"
2208	(6)	Add "313" and "314"
2235	(2)	Add ", LIQUID" at the end
	(3b)	Replace "T2" with "T1"
	(7)	Replace "LQ9" with "LQ19"
2236	(2)	Add ", LIQUID" at the end
	(3b)	Replace "T2" with "T1"
	(7)	Replace "LQ18" with "LQ17"
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"
2306 (liquid)	(2)	Replace "liquid" with "LIQUID"
2306 (solid)	(1)	Replace "2306" with "3431"
	(2)	Replace "solid" with "SOLID"
2308 (solid)	(1)	Replace "2308" with "3456"
	(10)	Replace "T8" with "T3"
2315	(2)	Add ", LIQUID" at the end
	(7)	Delete "LQ29"

UN Nos.	Column	Amendment
2319	(6)	Delete "274"
2433 (solid)	(1)	Replace "2433" with "3457"
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"
2669 (solid)	(1)	Replace "2669" with "3437"
	(2)	Replace "solid" with "SOLID"
	(9)	Delete "EX"
2732 (solid)	(1)	Replace "2732" with "3459"
2753 (solid)	(1)	Replace "2753" with "3460"
2810 (PG I)	(6)	Add "315"
2814 (risk groups 3 and 4)	(2)	Delete "(risk groups 3 and 4)"
	(6)	Replace "274" with "318"
2814 (risk group 2)	Delete	
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"
2900 (risk groups 3 and 4)	(2)	Delete "(risk groups 3 and 4)"
	(6)	Replace "274" with "318"
2900 (risk group 2)	Delete	
2927 (PG I)	(6)	Add "315"
2929 (PG I)	(6)	Add "315"
2937	(2)	Add ", LIQUID" at the end
3049	Delete	
3050	Delete	
3051	(6)	Add "320"
3052 (liquid)	(6)	Add "320"
3052 (solid)	(1)	Replace "3052" with "3461"
	(6)	Add "320"
3053	(6)	Add "320"
3076	(6)	Add "320"
3082	(7)	Replace "LQ28" with "LQ7"
3122 (PG I)	(6)	Add "315"
3123 (PG I)	(6)	Add "315"
3151	(7)	Delete "LQ29"

UN Nos.	Column	Amendment
3172 (solid, PG I)	(1)	Replace "3172" with "3462"
3172 (solid, PG II)	(1)	Replace "3172" with "3462"
3172 (solid, PG III)	(1)	Replace "3172" with "3462"
3203 (all entries)	Delete	
3207 (all entries)	Delete	
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"
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."
3278 (solid, PG II)	(1)	Replace "3278" with "3464"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
3278 (solid, PG III)	(1)	Replace "3278" with "3464"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
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."
3280 (solid, PG II)	(1)	Replace "3280" with "3465"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
3280 (solid, PG III)	(1)	Replace "3280" with "3465"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
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."
3281 (solid, PG II)	(1)	Replace "3281" with "3466"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
3281 (solid, PG III)	(1)	Replace "3281" with "3466"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
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."

<b>UN Nos.</b>	<b>Column</b>	<b>Amendment</b>
3282 (solid, PG II)	(1)	Replace "3282" with "3467"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
3282 (solid, PG III)	(1)	Replace "3282" with "3467"
	(2)	Replace "N.O.S., solid" with "SOLID, N.O.S."
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"
3372 (all entries)	Delete	
3373	(2)	Amend the name to read as follows: "DIAGNOSTIC SPECIMENS or CLINICAL SPECIMENS"
	(6)	Add "319"
3375 (all entries)	(6)	Delete "306"

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. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			(12)	(13)
1267	PETROLEUM CRUDE OIL (vapour pressure at 50 °C not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	T	PP, EX, A	VE01				1	
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	T	PP, EX, A	VE01				1	
1597	DINITROBENZENES LIQUID	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	T1	III	6.1	43 802	LQ19		PP, EP, TOX, A	VE02				0	
1658	NICOTINE SULPHATE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
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	LQ12		PP					0	
1835	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	8	C7	III	8		LQ19		PP, EP					0	
1938	BROMOACETIC ACID SOLUTION	8	C3	III	8		LQ19		PP, EP					0	
2669	CHLOROCRESOLS SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			(12)	(13)
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		PP					0	
3295	HYDROCARBONS LIQUID N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	I	3	640P 649	LQ3	T	PP, EX, A	VE01				1	
3377	SODIUM PERBORATE MONOHYDRATE	5.1	O2	III	5.1		LQ12		PP					0	
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	II	5.1		LQ11		PP					0	
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	III	5.1		LQ12		PP					0	
3379	DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.	3	D	I	3	274 311	LQ0		PP, EX, A	VE01				1	
3380	DESENSITIZED EXPLOSIVE, SOLID, N.O.S.	4.1	D	I	4.1	274 311	LQ0		PP					1	
3381	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	T1 or T4	I	6.1	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3382	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	T1 or T4	I	6.1	274 802	LQ0		PP, EP, TOX, A	VE02				2	

UN No. or ID No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	5.2.2 (5)	3.3 (6)	3.4.6 (7)	3.2.1 (8)	8.1.5 (9)	7.1.6 (10)	7.1.6 (11)			7.1.5 (12)	3.2.1 (13)
3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TF1	I	6.1 +3	274 802	LQ0		PP, EP, EX, TOX, A	VE01, VE02				2	
3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TF1	I	6.1 +3	274 802	LQ0		PP, EP, EX, TOX, A	VE01, VE02				2	
3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TW1	I	6.1 +4.3	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TW1	I	6.1 +4.3	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TO1	I	6.1 +5.1	274 802	LQ0		PP, EP, TOX, A	VE02				2	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	5.2.2 (5)	3.3 (6)	3.4.6 (7)	3.2.1 (8)	8.1.5 (9)	7.1.6 (10)	7.1.6 (11)			7.1.5 (12)	3.2.1 (13)
3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TO1	I	6.1 +5.1	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TC1 or TC3	I	6.1 +8	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TC1 or TC3	I	6.1 +8	274 802	LQ0		PP, EP, TOX, A	VE02				2	
3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0		PP					0	
3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0		PP					0	
3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER REACTIVE	4.2	SW	I	4.2 +4.3	274	LQ0		PP, EX, A	VE01				0	
3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER REACTIVE	4.2	SW	I	4.2 +4.3	274	LQ0		PP, EX, A	VE01				0	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			(12)	(13)
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE	4.3	W2	I	4.3	274	LQ0		PP, EX, A	VE01		HA08		0	
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE	4.3	W2	II	4.3	274	LQ11		PP, EX, A	VE01		HA08		0	
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE	4.3	W2	III	4.3	274	LQ12		PP, EX, A	VE01		HA08		0	
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, FLAMMABLE	4.3	WF2	I	4.3 +4.1	274	LQ0		PP, EX, A	VE01				1	
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, FLAMMABLE	4.3	WF2	II	4.3 +4.1	274	LQ11		PP, EX, A	VE01				1	
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, FLAMMABLE	4.3	WF2	III	4.3 +4.1	274	LQ12		PP, EX, A	VE01				0	
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, SELF-HEATING	4.3	WS	I	4.3 +4.2	274	LQ0		PP, EX, A	VE01	HA08			0	
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, SELF-HEATING	4.3	WS	II	4.3 +4.2	274	LQ11		PP, EX, A	VE01	HA08			0	
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, SELF-HEATING	4.3	WS	III	4.3 +4.2	274	LQ12		PP, EX, A	VE01	HA08			0	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage		Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE	4.3	W1	I	4.3	274	LQ0		PP, EX, A	VE01	HA08		0	
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE	4.3	W1	II	4.3	274	LQ10		PP, EX, A	VE01	HA08		0	
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE	4.3	W1	III	4.3	274	LQ13		PP, EX, A	VE01	HA08		0	
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE	4.3	WF1	I	4.3 +3	274	LQ0		PP, EX, A	VE01	HA08		1	
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE	4.3	WF1	II	4.3 +3	274	LQ10		PP, EX, A	VE01	HA08		1	
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE	4.3	WF1	III	4.3 +3	274	LQ13		PP, EX, A	VE01	HA08		0	
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF- HEATING	4.2	S5	II	4.2	274	LQ18		PP				0	
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF- HEATING	4.2	S5	III	4.2	274	LQ11		PP				0	
3401 /389	ALKALI METAL AMALGAM, SOLID	4.3	W2	I	4.3	182	LQ0		PP, EX, A	VE01	HA08		0	
3402 /392	ALKALINE EARTH METAL AMALGAM, SOLID	4.3	W2	I	4.3	183	LQ0		PP, EX, A	VE01	HA08		0	
3403 /420	POTASSIUM METAL ALLOYS, SOLID	4.3	W2	I	4.3		LQ0		PP, EX, A	VE01	HA08		0	
3404 /422	POTASSIUM SODIUM ALLOYS, SOLID	4.3	W2	I	4.3		LQ0		PP, EX, A	VE01	HA08		0	
3405 /445	BARIUM CHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1	802	LQ10		PP, EP, TOX, A	VE02			2	
3405 /445	BARIUM CHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1	802	LQ13		PP, EP, TOX, A	VE02			0	
3406 /447	BARIUM PERCHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1	802	LQ10		PP, EP, TOX, A	VE02			2	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	5.2.2 (5)	3.3 (6)	3.4.6 (7)	3.2.1 (8)	8.1.5 (9)	7.1.6 (10)	7.1.6 (11)			7.1.5 (12)	3.2.1 (13)
3406 1447	BARIUM PERCHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1	802	LQ13		PP, EP, TOX, A	VE02				0	
3407 1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	II	5.1		LQ10		PP					0	
3407 1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	III	5.1		LQ13		PP					0	
3408 1470	LEAD PERCHLORATE SOLUTION	5.1	OT1	II	5.1 +6.1		LQ10		PP					0	
3408 1470	LEAD PERCHLORATE SOLUTION	5.1	OT1	III	5.1 +6.1		LQ13		PP					0	
3410 1579	4-CHLORO-o-TOLUIDINE HYDROCHLORIDE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
3411 1650	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	II	6.1	802	LQ17		PP, EP, TOX, A	VE02				2	
3411 1650	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
3413 1680	POTASSIUM CYANIDE SOLUTION	6.1	T4	I	6.1	802	LQ0		PP, EP, TOX, A	VE02				2	
3413 1680	POTASSIUM CYANIDE SOLUTION	6.1	T4	II	6.1	802	LQ17		PP, EP, TOX, A	VE02				2	
3413 1680	POTASSIUM CYANIDE SOLUTION	6.1	T4	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
3414 1689	SODIUM CYANIDE SOLUTION	6.1	T4	I	6.1	802	LQ0		PP, EP, TOX, A	VE02				2	
3414 1689	SODIUM CYANIDE SOLUTION	6.1	T4	II	6.1	802	LQ17		PP, EP, TOX, A	VE02				2	
3414 1689	SODIUM CYANIDE SOLUTION	6.1	T4	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage		Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)
3415 1690	SODIUM FLUORIDE SOLUTION	6.1	T4	III	6.1	802	LQ19		PP, EP, TOX, A	VE02			0	
3416 1697	CHLOROACETOPHENONE, LIQUID	6.1	T1	II	6.1	802	LQ17		PP, EP, TOX, A	VE02			2	
3417 1701	XYLYL BROMIDE, SOLID	6.1	T2	II	6.1	802	LQ18		PP, EP				2	
3418 1709	2,4-TOLUYLENEDIAMINE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02			0	
3419 1742	BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23		PP, EP				0	
3420 1743	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23		PP, EP				0	
3421 1811	POTASSIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	II	8 +6.1	802	LQ22		PP, EP, TOX, A	VE02			2	
3421 1811	POTASSIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	III	8 +6.1	802	LQ19		PP, EP, TOX, A	VE02			0	
3422 1812	POTASSIUM FLUORIDE SOLUTION	6.1	T4	III	6.1	802	LQ19		PP, EP, TOX, A	VE02			0	
3423 1835	TETRAMETHYLAMMONIUM HYDROXIDE, SOLID	8	C8	II	8		LQ24		PP, EP				0	
3424 1843	AMMONIUM DINITRO -o-CRESOLATE SOLUTION	6.1	T1	II	6.1	802	LQ17		PP, EP, TOX, A	VE02			2	
3424 1843	AMMONIUM DINITRO -o-CRESOLATE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02			0	
3425 1938	BROMOACETIC ACID, SOLID	8	C4	II	8		LQ23		PP, EP				0	
3426 2074	ACRYLAMIDE SOLUTION	6.1	T1	III	6.1		LQ19	T	PP, EP, TOX, A	VE02			0	
3427 2235	CHLOROBENZYL CHLORIDES, SOLID	6.1	T2	III	6.1	802	LQ9		PP, EP				0	
3428 2236	3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID	6.1	T2	II	6.1	802	LQ18		PP, EP				2	
3432 2315	POLYCHLORINATED BIPHENYLS, SOLID	9	M2	II	9	305 802	LQ25		PP, EP				0	
3433 2445	LITHIUM ALKYLs, SOLID	4.2	SW	I	4.2 +4.3	320	LQ0		PP, EX, A	VE01			0	

UN No. or ID No.	Name and description	Class	Classifi- cation Code	Packing group	Labels	Special provisions	Limited quantities	Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of cones, blue lights	Remarks
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			(12)	(13)
3435 2662	HYDROQUINONE SOLUTION	6.1	T1	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
3436 2552	HEXAFLUOROACETONE HYDRATE, SOLID	6.1	T2	II	6.1	802	LQ18		PP, EP					2	
3438 2937	alpha-METHYLBENZYL ALCOHOL, SOLID	6.1	T2	III	6.1	802	LQ9		PP, EP					0	
3439 3276	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	I	6.1	274 802	LQ0		PP, EP					2	
3439 3276	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	II	6.1	274 802	LQ18		PP, EP					2	
3439 3276	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	III	6.1	274 802	LQ9		PP, EP					0	
3440 3283	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	I	6.1	802	LQ0		PP, EP, TOX, A	VE02				2	
3440 3283	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	II	6.1	802	LQ17		PP, EP, TOX, A	VE02				2	
3440 3283	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	III	6.1	802	LQ19		PP, EP, TOX, A	VE02				0	
3468	HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM	2	2F		2.1	321	LQ0		PP, EX, A	VE01				1	

### 3.2.3 Table C

UN No	Column	Amendment
1578 (solid)	(2)	Replace "solid" with "SOLID"
1664 (solid)	(1)	The last two entries (NITROTOLUENES, SOLID) are moved under UN No 3446.
1708 (solid)	(1)	The last two entries (TOLUIDINES, SOLID) are moved under UN No 3451.
1742	(2)	Add ", LIQUID" at the end.
1805 (liquid)	(2)	Replace "LIQUID" with "SOLUTION"
2074	(1)	The entry is moved under UN No 3426
	(2)	Read: "ACRYLAMIDE, aqueous SOLUTION".
2076 (solid)	(1)	The two entries (CRESOLS, SOLID) are moved under UN No 3455.
2239 (liquid)	(1)	Replace "2239" with "3429"
	(2)	Replace "liquid" with "LIQUID"
3276 (all entries)	(2)	Amend the name to read as follows: "NITRILES, TOXIC, LIQUID, N.O.S".

**Table C** Add the following entry 2966 and amend the entry 9002 to read:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2966	THIOGLYCOL	6.1	T1	II	6.1	C	2	2	3	25	95	1.12	2	non		non	PP, EP, TOX, A	2	
9002	SUBSTANCES WITH A SELF-IGNITION TEMPERATURE OF 200°C OR BELOW n.o.s.	3	F4		3	C	1	1			95		1	oui	T4	II B <sup>4)</sup>	oui	PP, EX, A	0

### Chapter 3.3

Amend the following special provisions as follows:

**SP172** Replace the reference to "5.4.1.2.5.1 (e)" by a reference to "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 ADN 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 for 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** Replace the existing text with the following:

"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** Replace the existing text with the following:

"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 ADN 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) of ADR are complied with;"

Delete subparagraph (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 tanks conforming to Chapter 6.8 of RID or ADR.

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/consignment note, only in case of carriage in tanks conforming to Chapter 6.8 of ADR or RID:

"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 of ADR.
- 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 marked in accordance with packing instruction P650 of ADR are not subject to any other requirements of ADN.
- 320** It is intended that this entry will be deleted from ADN 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 ADN.

**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<sup>2</sup> is suitable.

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 of ADR or to packing instruction IBC006 of 4.1.4.2 of ADR;
- (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 of ADR, 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 wagons, movable roof wagons/sheeted vehicles, closed containers or sheeted large containers, all with complete walls is allowed. The wagons, containers or body of vehicles 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) of ADR is only applicable for a net explosive content of more than 3,000 kg (4,000 kg with trailer).

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<sup>2</sup> *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.*

**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. Add "of ADR" at the end of paragraph.

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 of ADR."

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 of ADR;"

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 <sup>a</sup> Maximum net quantity		Inner packagings placed in shrink-wrapped or stretch-wrapped trays <sup>a</sup> Maximum net quantity	
	per inner packaging	per package <sup>b</sup>	per inner packaging	per package <sup>b</sup>
(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 <sup>c</sup>	500 ml	1 l	Not allowed	Not allowed
LQ4	3 l		1 l	
LQ5	5 l	Unlimited	1 l	
LQ6 <sup>c</sup>	5 l		1 l	
LQ7 <sup>c</sup>	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
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 <sup>d</sup>	1 kg		1 kg	
LQ26 <sup>d</sup>	500 ml	2 l	500 ml	2 l
LQ27	6 kg		6 kg	
LQ28	3 l		3 l	

<sup>a</sup> See 3.4.1.2

<sup>b</sup> See 3.4.1.3

<sup>c</sup> 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.

<sup>d</sup> 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**

4.1.3 Amend the two last indents to read:

- “- Chapter 7.3 of ADR, taking account of indications in columns (10) or (17) of Table A of Chapter 3.2 of ADR, except that sheeted vehicles and containers are not allowed;
- Chapter 7.3 of RID, taking account of indications in columns (10) or (17) of Table A of Chapter 3.2 of RID, except that sheeted wagons and containers are not allowed.”

## **PART 5**

### ***Chapter 5.1***

5.1.2.1 (a) Amend to read: "An overpack shall bear the word "OVERPACK" and shall be marked with the UN number ..." (remainder unchanged).

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 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.

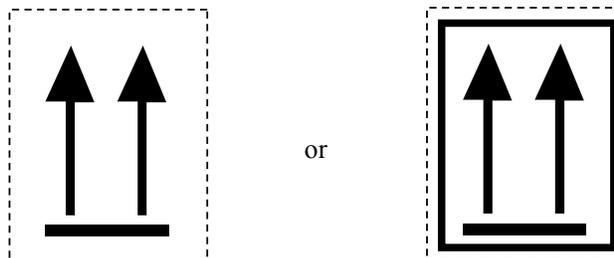
5.2.2.1.6 Amend the beginning of this paragraph to read: "Except as provided in 5.2.2.2.1.2, each label shall:"

5.2.2.2.1.1 Insert the new sentence before the last current sentence: "For receptacles intended for the carriage of refrigerated liquefied gases the standard format of A7 (74 x 105 mm) may also be used."

5.2.2.2.1.6 (c) Replace "for UN1965" with "for gases of UN Nos. 1011, 1075, 1965 and 1978,".

5.2.2.2.2 The amendment concerning the text of 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  $\pm 10\%$ ."

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:

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

5.4.1.1.6.11 *(Reserved)*

5.4.1.1.6.12 *(Reserved)*

Renumber consequently the existing paragraphs 5.4.1.1.6.11 to 5.4.1.1.6.15.

5.4.1.1.7 Replace 1.1.4.2 with 1.1.4.2.1 (twice).

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 of ADR*

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

"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 of ADR" (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:

"5.4.1.2.5.1 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 conveyance, a detailed statement of the contents of each package within the overpack, container, or conveyance and, where appropriate, of each overpack, container, or conveyance shall be included. If packages are to be removed from the overpack, container, or conveyance 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**

**6.1.5** Amend the end to read: "of Chapter 6.11 or of Chapter 9.5 of ADR."

Add a new 6.1.6 to read:

"6.1.6 When the provisions of 7.3.1.1 (a) of RID or ADR are applied, the bulk containers shall meet the requirements of Chapter 6.11 of RID or ADR."

**Part 7**

7.1.2.0.2 Insert: “4.2, 4.3, 5.1” between “4.1” and “5.2”.

Amend 7.1.4.1.1 to 7.1.4.1.3 to read:

“7.1.4.1.1 Subject to 7.1.4.1.3, the following gross masses shall not be exceeded on any vessel. For pushed convoys and side-by-side formations this gross mass applies to each unit of the convoy or formation.

***Class 1***

All substances and articles of Division 1.1 of compatibility group A	90 kg <sup>1</sup>
All substances and articles of Division 1.1 of compatibility groups B, C, D, E, F, G, J or L	15,000 kg <sup>2</sup>
All substances and articles of Division 1.2 of compatibility groups B, C, D, E, F, G, H, J or L	50,000 kg
All substances and articles of Division 1.3 of compatibility groups C, G, H, J or L	300,000 kg <sup>3</sup>
All substances and articles of Division 1.4 of compatibility groups B, C, D, E, F, G or S	1,100,000 kg
All substances of Division 1.5 of compatibility group D	15,000 kg <sup>2</sup>
All articles of Division 1.6 of compatibility group N	300,000 kg <sup>3</sup>
Empty packagings, uncleaned	1,100,000 kg

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***Note:***

<sup>1</sup> *In not less than three batches of a maximum of 30 kg each, distance between batches not less than 10.00 m.*

<sup>2</sup> *In not less than three batches of a maximum of 5 000 kg each, distance between batches not less than 10.00 m.*

<sup>3</sup> *A wooden partition is permitted for subdividing a hold.*

***Class 2***

All goods for which label No. 2.3 is required in column (5) of Table A of Chapter 3.2: total	120 000 kg
All goods for which label No. 2.1 is required in column (5) of Table A of Chapter 3.2: total	300 000 kg
Other goods	No limitation

***Class 3***

All goods for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2: total	120 000 kg
Other goods	300 000 kg

**Class 4.1**

UN Nos. 3221, 3222, 3231 and 3232, total 15 000 kg

All goods of packing group I; all goods of packing group II for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2; self-reactive substances of types C, D, E and F (UN Nos. 3223 to 3230 and 3233 to 3240); other substances of classification code SR1 or SR2 (UN Nos. 2956, 3241, 3242 and 3251); and desensitized explosive substances of packing group II (UN Nos. 2907, 3319 and 3344): total 120 000 kg

Other goods No limitation

**Class 4.2**

All goods of packing groups I or II for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2: total 300 000 kg

Other goods No limitation

**Class 4.3**

All goods of packing groups I or II for which label No. 3, 4.1 or 6.1 is required in column (5) of Table A of Chapter 3.2: total 300 000 kg

Other goods No limitation

**Class 5.1**

All goods of packing groups I or II for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2: total 300 000 kg

Other goods No limitation

**Class 5.2**

UN Nos. 3101, 3102, 3111 and 3112: total 15 000 kg

All other goods: total 120 000 kg

**Class 6.1**

All goods of packing group I 120 000 kg

All goods of packing group II 300 000 kg

Other goods No limitation

**Class 7**

UN Nos. 2912, 2913, 2915, 2917, 2919, 2977, 2978 and 3321 to 3333 0 kg

Other goods No limitation

**Class 8**

All goods of packing group I; goods of packing group II for which label No. 3 or 6.1 is required in column (5) of the table in Chapter 3.2: total 300 000 kg

Other goods No limitation

**Class 9**

All goods of packing group II	300 000 kg
Other goods	No limitation

7.1.4.1.2 Subject to 7.1.4.1.3, the maximum quantity of dangerous goods permitted on board a vessel or on board each unit of a pushed convoy or side-by-side formation is 1,100,000 kg.

7.1.4.1.3 The limitations of 7.1.4.1.1 and 7.1.4.1.2 shall not apply in the case of transport of dangerous goods of classes 2, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 7, 8 and 9, except of those for which a label of Model No 1 is required in column (5) of Table A of Chapter 3.2, on board double-hull vessels complying with the additional requirements of 9.1.0.88 to 9.1.0.95 or 9.2.0.88 to 9.2.0.95."

7.1.4.14.7.1.1 (a) (ii) Add at the end:

"..., taking account of the exposures expected to be delivered by all other relevant sources and practices under control; and."

7.1.4.14.7.3.3 (c) Amend the end to read:

"...of the conveyance, except for consignments carried under exclusive use, for which the radiation limits around the conveyance are set forth in ADN 7.1.4.14.7.3.5 (b) and (c)".

7.1.4.14.7.4.1 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 criticality safety indexes 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."

7.1.4.14.7.5.5 Amend the beginning to read as follows:

"A container, tank, intermediate bulk container or conveyance dedicated to the carriage of unpackaged radioactive material under exclusive use..."

7.1.4.15.3 Add a new paragraph as follows:

"A transport unit or hold space which has been used to carry infectious substances shall be inspected for release of the substance before re-use. If the infectious substances were released during carriage, the transport unit or hold space shall be decontaminated before it is re-used. Decontamination may be achieved by any means which effectively inactivates the released infectious substance."

7.1.5.0.2 Second and third indents, insert: "a substance of Class 2 is involved or" after "are/is required,".

7.1.6.13 Add LO05 as follows:

"LO05: Prior to carriage of pressure receptacles it shall be ensured that the pressure has not risen due to potential hydrogen generation."

7.2.4.1.1 Second sentence, after “These intermediate bulk containers, tank-containers or portable tanks shall:” insert:

“meet the requirements of international regulations applicable to the substance concerned.”

Replace “9.3.2.26” by “9.3.2.26.4”

Replace “9.3.3.26” by “9.3.3.26.4”

Beginning of the second sentence (second indent), read:

“Receptacles shall meet the packing requirements referred to in Part 4 and shall be placed on board ...”

After 7.2.4.1.3, add:

“7.2.4.1.4 On board supply vessels or other vessels delivering products for the operation of vessels, the number of cargo samples referred to in 7.2.4.1.1 may be increased from 30 to a maximum of 500.”

After 7.2.4.15.1, insert:

“7.2.4.15.2 During the filling of permitted residual cargo tanks, intermediate bulk containers (IBCs), tank-containers or portable tanks, gases shall be safely evacuated.”

7.2.4.15.2 becomes “7.2.4.15.3”.

7.2.4.16.12 Add the following sentence:

“The protection of the vessel against detonations and the passage of flames from the shore is not required when the cargo tanks are inerted in accordance with 7.2.4.19.”

## **Part 8**

### ***Chapter 8.1***

8.1.2.1 Add the following:

“(i) Means of identification, which include a photograph, for each crew member, in accordance with 1.10.1.4.”

8.1.2.3 Add a new (i) to read:

“(i) The instructions relating to the loading and unloading flows prescribed in 9.3.2.25.9 or 9.3.3.25.9.”

Number “(i)”, “(j)” and “(k)” as “(j)”, “(k)” and “(l).”

**Chapter 8.2**

- 8.2.1.3 Replace “the topics referred to in 8.2.2.3.2” by “the objectives referred to in 8.2.2.3.1.1 and in 8.2.2.3.1.2 or 8.2.2.3.1.3.”
- 8.2.1.4 Replace “the topics referred to in 8.2.2.3.3” by “the objectives referred to in 8.2.2.3.3.1.”
- 8.2.1.5 Replace “the topics referred to in 8.2.2.3.4” by “the objectives referred to in 8.2.2.3.3.2.”
- 8.2.1.6 Replace “the topics referred to in 8.2.2” by “the objectives referred to in 8.2.2.3.1.1 and in 8.2.2.3.1.2 or 8.2.2.3.1.3.”
- 8.2.1.7 Replace “the topics referred to in 8.2.2.3.3” by “the objectives referred to in 8.2.2.3.3.1.”
- 8.2.1.8 Replace “the topics referred to in 8.2.2.3.4” by “the objectives referred to in 8.2.2.3.3.2.”

**8.2.2** Read:

**“8.2.2 Special requirements for the training of experts**

8.2.2.1 Theoretical knowledge and practical abilities shall be acquired as a result of training in theory and practical exercises. The theoretical knowledge shall be tested by an examination. During the refresher and advanced courses exercises and tests shall ensure that the participant takes an active role in the training.

8.2.2.2 The training organizer shall ensure that participants have a good knowledge of the subject and shall take into account the latest developments concerning the Regulations and the requirements for training in the transport of dangerous goods. Teaching shall relate closely to practice. In accordance with the approval, the teaching syllabus shall be drawn up on the basis of the objectives referred to in 8.2.2.3.1.1 to 8.2.2.3.1.3 and in 8.2.2.3.3.1 or 8.2.2.3.3.2. Basic training and the refresher and advanced courses shall comprise individual practical exercises (see 8.2.2.3.1.1).

**8.2.2.3 Organization of training**

Basic training and the refresher and advanced courses shall be organized in the context of basic courses (see 8.2.2.3.1) and if necessary specialization courses (see 8.2.2.3.3). The courses referred to in 8.2.2.3.1 may comprise three variants: transport of dry cargo, transport in tank vessels and combined transport of dry cargo and transport in tank vessels.

8.2.2.3.1 *Basic course*

**Basic course on the transport of dry cargo**

Prior training: none  
 Knowledge: ADN in general, except Chapter 3.2, Table C, Chapters 7.2 and 9.3  
 Authorized for: vessels carrying dry cargo only  
 Training: general 8.2.2.3.1.1 and dry cargo vessels 8.2.2.3.1.2

### **Basic course on transport by tank vessels**

Prior training: none  
Knowledge: ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1, 9.2 and sections 9.3.1 and 9.3.2  
Authorized for: type N tank vessels only  
Training: general 8.2.2.3.1.1 and tank vessels 8.2.2.3.1.3

### **Combined basic course on dry cargo and tank vessels**

Prior training: none  
Knowledge: ADN in general, except sections 9.3.1 and 9.3.2  
Authorized for: dry cargo vessels and type N tank vessels  
Training: general 8.2.2.3.1.1, dry cargo vessels 8.2.2.3.1.2 and tank vessels 8.2.2.3.1.3

8.2.2.3.1.1 The general part of the basic training course shall comprise at least the following objectives:

General:

- Objectives and structure of ADN.

Construction and equipment:

- Construction and equipment of vessels subject to ADN.

Measurement techniques:

- Measurements of toxicity, oxygen content, explosivity.

Knowledge of products:

- Classification and hazard characteristics of the dangerous goods.

Loading, unloading and transport:

- Loading, unloading, general service requirements and requirements relating to transport.

Documents:

- Documents which must be on board during transport.

Hazards and measures of prevention:

- General safety measures.

Practical exercises:

- Practical exercises, in particular with respect to entry into spaces, use of fire-extinguishers, fire-fighting equipment and personal protective equipment as well as flammable gas detectors, oxygen meters and toximeters.

8.2.2.3.1.2 The “dry cargo vessels” part of the basic training course shall comprise at least the following objectives:

Construction and equipment:

- Construction and equipment of dry cargo vessels.

Treatment of holds and adjacent spaces:

- degassing, cleaning, maintenance,
- ventilation of holds and spaces outside the cargo area.

Loading, unloading and transport:

- loading, unloading, general service and transport requirements,
- labelling of packages.

Documents:

- documents which must be on board during transport.

Hazards and measures of prevention:

- general safety measures,
- personal protective and safety equipment.

8.2.2.3.1.3 The “tank vessel” part of the basic training course shall comprise at least the following objectives:

Construction and equipment:

- construction and equipment of tank vessels,
- ventilation,
- loading and unloading systems.

Treatment of cargo tanks and adjacent spaces:

- degassing, cleaning, maintenance,
- heating and cooling of cargo,
- handling of residual cargo tanks.

Measurement and sampling techniques:

- measurements of toxicity, oxygen content and explosivity,
- sampling.

Loading, unloading and transport:

- loading, unloading, general service and transport requirements.

Documents:

- documents which must be on board during transport.

Hazards and measures of prevention:

- prevention and general safety measures,
- spark formation,
- personal protective and safety equipment,
- fires and fire-fighting.

#### 8.2.2.3.2 *Refresher and advanced training courses*

##### **Refresher and advanced training course on transport of dry cargo**

Prior training:	valid ADN “dry cargo vessels” or combined “dry cargo vessels/tank vessels” certificate
Knowledge:	ADN in general, except Chapter 3.2, Table C, Chapters 7.2 and 9.3
Authorized for:	dry cargo vessels only
Training:	general 8.2.2.3.1.1 and dry cargo vessels 8.2.2.3.1.2

##### **Refresher and advanced training course on transport in tank vessels**

Prior training:	valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate
Knowledge:	ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1 and 9.2 and sections 9.3.1 and 9.3.2
Authorized for:	type N vessels only
Training:	general 8.2.2.3.1.1 and tank vessels 8.2.2.3.1.3

##### **Refresher and advanced training course on combined transport in “dry cargo vessels/tank vessels”**

Prior training:	valid ADN combined “dry cargo vessels and tank vessels” certificate
Knowledge:	ADN in general, including sections 9.3.1 and 9.3.2
Authorized for:	dry cargo vessels and type N tank vessels

Training: general 8.2.2.3.1.1, dry cargo vessels 8.2.2.3.1.2 and tank vessels 8.2.2.3.1.3

#### 8.2.2.3.3 Specialization courses

##### **Specialization course on gases**

Prior training: valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate

Knowledge: ADN, in particular knowledge relating to loading, transport, unloading and handling of gases

Authorized for: types N and G vessels

Training: gases 8.2.2.3.3.1

##### **Specialization course on chemicals**

Prior training: valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate

Knowledge: ADN, in particular knowledge relating to loading, transport, unloading and handling of chemicals

Authorized for: types N and C tank vessels

Training: chemicals 8.2.2.3.3.2

#### 8.2.2.3.3.1 The specialization course on gases shall comprise at least the following objectives:

##### **Knowledge of physics and chemistry:**

- laws of gases, e.g. Boyle, Gay-Lussac and fundamental law
- partial pressures and mixtures, e.g. definitions and simple calculations, pressure increase and gas release from cargo tanks
- Avogadro’s number and calculation of masses of ideal gas and application of the mass formula
- density and volume of liquids, e.g. density, volume in terms of temperature increase and maximum degree of filling
- critical pressure and temperature
- polymerization, e.g. theoretical and practical questions, conditions of carriage
- vaporization, condensation, e.g. definition, liquid volume and vapour volume ratio
- mixtures, e.g. vapour pressure, composition and hazard characteristics
- chemical bonds and formulae.

##### **Practice:**

- flushing of cargo tanks, e.g. flushing in the event of a change of cargo, addition of air to the cargo, methods of flushing (degassing) before entering cargo tanks
- sampling

- danger of explosion
- health risks
- gas concentration measures, e.g. which apparatus to use and how to use it
- monitoring of closed spaces and entry to these spaces
- certificates for degassing and permitted work
- degree of filling and over-filling
- safety installations
- pumps and compressors.

#### **Emergency measures**

- physical injury, e.g. liquefied gases on the skin, breathing in gas, assistance irregularities relating to the cargo, e.g. leak in a connection, over-filling, polymerization and hazards in the vicinity of the vessel.

8.2.2.3.3.2 The specialization course on chemicals shall comprise at least the following objectives:

#### **Knowledge of physics and chemistry:**

- chemical products, e.g. molecules, atoms, physical state, acids, bases, oxidation
- density, pressure and volume of liquids, e.g. density, volume and pressure in terms of temperature increase, maximum degree of filling
- critical temperature
- polymerization, e.g. theoretical and practical questions, conditions of carriage
- mixtures, e.g. vapour pressure, composition and hazard characteristics
- chemical bonds and formulae.

#### **Practice:**

- cleaning of cargo tanks, e.g. degassing, washing, residues, cargo residues
- sampling
- danger of explosion
- health risks
- gas concentration measures, e.g. which apparatus to use and how to use it
- monitoring of closed spaces and entry to these spaces
- certificates for degassing and permitted work
- degree of filling and over-filling
- safety installations
- pumps and compressors.

#### **Emergency measures**

- physical injury, e.g. liquefied gases on the skin, breathing in gas, assistance irregularities relating to the cargo, e.g. leak in a connection, over-filling, polymerization and hazards in the vicinity of the vessel.

8.2.2.3.4 *Refresher and advanced training courses*

**Refresher and advanced training course on gases**

Prior training: valid ADN “gases” certificate  
Knowledge: ADN, in particular, loading, transport, unloading and handling of gases  
Authorization for: types N and G tank vessels  
Training: gases 8.2.2.3.3.1

**Refresher and advanced training course on chemicals**

Prior training: valid ADN “chemicals” certificate  
Knowledge: ADN, in particular, loading, transport, unloading and handling of chemicals  
Authorization for: types N and C tank vessels  
Training: chemicals 8.2.2.3.3.2

8.2.2.4 *Planning of refresher and specialization courses*

The following minimum periods of training shall be observed:

Basic “dry cargo vessels course”	24 lessons of 45 minutes each
Basic “tank vessels” course	24 lessons of 45 minutes each
Basic combined course	32 lessons of 45 minutes each
Specialization course on gases	16 lessons of 45 minutes each
Specialization course on chemicals	16 lessons of 45 minutes each

Each day of training may comprise not more than eight lessons.

If the theoretical training is by correspondence, equivalences to the above-mentioned lessons shall be determined. Training by correspondence shall be completed within a period of nine months.

Approximately 30% of basic training shall be devoted to practical exercises. Practical exercises shall, where possible, be undertaken during the period of theoretical training; in any event, they shall be completed not later than three months following the completion of theoretical training.

8.2.2.5 *Planning of refresher and advanced training courses*

The refresher and advanced training courses shall take place before the expiry of the deadline referred to in 8.2.1.4, 8.2.1.6 or 8.2.1.8.

The following minimum periods of training shall be observed:

Basic refresher course:

- dry cargo vessels 16 lessons of 45 minutes each
- tank vessels 16 lessons of 45 minutes each
- combined dry cargo vessels and tank vessels 16 lessons of 45 minutes each

Specialization refresher course on gases 8 lessons of 45 minutes each

Specialization refresher course on chemicals 8 lessons of 45 minutes each

Each day of training may comprise not more than eight lessons.

If the theoretical training is by correspondence, equivalences to the above-mentioned lessons shall be determined. Training by correspondence shall be completed within a period of nine months.

Approximately 50% of basic training shall be devoted to practical exercises. Practical exercises shall, where possible, be undertaken during the period of theoretical training; in any event, they shall be completed not later than three months following the completion of theoretical training.

#### **8.2.2.6 *Approval of training courses***

8.2.2.6.1 Training courses shall be approved by the competent authority.

8.2.2.6.2 Approval shall be granted only on written application.

8.2.2.6.3 Applications for approval shall be accompanied by:

- (a) the detailed course curriculum showing the course topics and the length of time to be devoted to them, as well as the teaching methods envisaged;
- (b) the roster of teaching staff, listing their qualifications and the subjects to be taught by each one;
- (c) information on classrooms and teaching materials, as well as on the facilities available for practical exercises;
- (d) enrolment requirements, e.g. the number of participants.

8.2.2.6.4 The competent authority shall be responsible for monitoring training courses and examinations.

8.2.2.6.5 The approval comprises the following conditions, inter alia:

- (a) training courses shall conform to the information accompanying the application for approval;
- (b) the competent authority may send inspectors to attend training courses and examinations;

- (c) the timetables for the various training courses shall be notified in advance to the competent authority.

Approval shall be granted in writing. It may be withdrawn in the event of failure to comply with the conditions of approval.

8.2.2.6.6 The approval document shall indicate whether the course in question is a basic training course, a specialization course or a refresher and advanced training course.

8.2.2.6.7 If, after approval is granted, the organizer of the training course wishes to change conditions affecting the approval, he shall seek the prior agreement of the competent authority. This provision shall apply in particular to amendments to syllabuses.

8.2.2.6.8 Training courses shall take account of the current developments in the various subjects taught. The course organizer shall be responsible for ensuring that recent developments are brought to the attention of, and properly understood by, teachers.

#### **8.2.2.7** *Examinations*

(The text of this sub-section and its paragraphs is that of the existing 8.2.3.5 with the following amendments:

Each time the reference occurs, replace “the competent authority” by the “Administrative Committee”. The footnote should read: “Before the entry into force of the Agreement, or until the Administrative Committee adopts the list of questions, this list of questions shall be drafted by the competent authority. It is recommended that the competent authority should use the lists of questions drawn up by the Central Commission for the Navigation of the Rhine or the Danube Commission.”)

8.2.2.7.1.3 (former 8.2.3.5.1.3) Read:

“The Administrative Committee shall establish a list of questions comprising the objectives set out in 8.2.2.3.1.1 to 8.2.2.3.1.3. The examination questions shall be selected from this list. The candidate shall not have advance knowledge of the questions selected.”

8.2.2.7.1.4 (former 8.2.3.5.1.4) Read:

“The model attached to the list of questions is to be used to compile the examination questions.”

8.2.2.7.1.5 (former 8.2.3.5.1.5) Add “and CEVNI” after “regulations on dangerous goods”.

8.2.2.7.2.3 (former 8.2.3.5.2.3) Replace “the topics referred to in 8.2.2.3.3 or 8.2.2.3.4” by “the objectives set out in 8.2.2.3.3.1 or 8.2.2.3.3.2”.

Delete the last sentence.

#### **8.2.2.8** *ADN specialized knowledge certificate*

Include the text of the existing 8.2.3.6, replacing the last sentence by:

“The validity of the basic training certificate shall be five years as from the date of the examination.

The validity of the ‘gases’ and/or ‘chemicals’ specialized training certificate shall be brought into line with the validity of the basic training certificate.

If the refresher and advanced training course was not fully completed before the expiry of the period of validity of the certificate, a new certificate shall not be issued until the candidate has completed a further initial basic training course and passed an examination referred to in 8.2.2.7 above.”

8.2.3.5.2.4 (former 8.2.3.5.12.4) Read:

“The model attached to the list of questions is to be used to compile the examination questions.”.

### ***Chapter 8.6***

Delete this chapter and renumber the following accordingly.

### ***Chapter 8.7***

#### **8.7.3 Checklist**

Page 2:

After “kPa  
(permissible maximum pressure in the cargo tank)”

insert:

“litres  
(estimated residual quantity)”.

After “Questions to the master”, insert:

“or the person mandated by him”.

Page 3:

Question 2, insert after “master”:

“or the person mandated by him”.

In the explanation for question 10, add the following sentence:

“When supervision is effected by additional technical means it must be agreed between the shore installation and the vessel how it is to be ensured.”

In the explanation for question 13, insert after “master”:

“or the person mandated by him”.

## **PART 9**

### ***Chapter 9.1***

9.1.0.52.1 End, add the following sentence:

“Submerged pumps installed or used in the holds shall be of the certified safe type at least for temperature class T4 and explosion group II B.”

9.1.0.80 Between “4.1” and “5.2” insert “4.2, 4.3, 5.1,”

9.1.0.88.1 Between “4.1” and “5.2” insert “4.2, 4.3, 5.1,”

### ***Chapter 9.2***

Word the heading of 9.2 to read:

**“Rules for construction applicable to seagoing vessels which comply with the requirements of the SOLAS 74 Convention, Chapter II-2, Regulation 19 or SOLAS 74, Chapter II-2, Regulation 54”** (twice)

Number the text under the heading 9.2.0 and word it to read:

“9.2.0 The requirements of 9.2.0.0 to 9.2.0.79 are applicable to seagoing vessels which comply with the following requirements:

- SOLAS 74, Chapter II-2, Regulation 19 in its amended version; or
- SOLAS 74, Chapter II-2, Regulation 54 in its amended version in accordance with the resolutions mentioned in Chapter II-2, Regulation 1, paragraph 2.1, provided that the vessel was constructed before 1 July 2002.

Seagoing vessels which do not comply with the above-mentioned requirements of the SOLAS 74 Convention shall meet the requirements of 9.1.0.0 to 9.1.0.79.”

9.2.0.80 Between “4.1” and “5.2” insert: “4.2, 4.3, 5.1,”

9.2.0.88.1 Between “4.1” and “5.2” insert: “4.2, 4.3, 5.1,”

### ***Chapter 9.3***

9.3.1.21.1 (f), read:

“(f) an instrument for measuring the temperature of the cargo;”.

9.3.1.21.10 Replace: “a switch” by “switches”

and “The switch shall be placed” by “The switches shall be placed”.

- 9.3.1.28 Replace: “vapours” by “gases”
- Second paragraph, add the following second sentence:
- “The spray nozzles shall be so installed that released gases are precipitated safely.”
- 9.3.2.11.4 Third paragraph, end of second sentence, read:
- “... provided that the discharge pipes are fitted with shut-off devices at the outlet from the cargo tank and in the cargo pump-room direct at the bulkhead.”
- 9.3.2.21.1 (f) Read:
- “(f) an instrument for measuring the temperature of the cargo if in column (9) of Table C of Chapter 3.2 a heating installation is required or if in column (20) a possibility of heating the cargo is required or if a maximum temperature is indicated;”
- 9.3.2.21.7 Third paragraph, first sentence, after “activate the alarm” insert “at latest”.
- 9.3.2.21.12 Replace: “a switch” by “switches”
- and “The switch shall be placed” by “The switches shall be placed”.
- 9.3.2.26.4 Insert this number in front of “The residual cargo tank ...” and word 9.3.2.26.4 to read:
- “9.3.2.26.4 The residual cargo tank shall be equipped with:
- pressure-relief and vacuum-relief valves.
- The high-velocity vent valve shall be so regulated as not to open during carriage. This condition is met when the opening pressure of the valve meets the conditions set out in column (19) of Table C of Chapter 3.2,
- When anti-explosion protection is required in column (17) of Table C of Chapter 3.2, the vacuum-relief valve shall be capable of withstanding deflagrations and the high-velocity vent valve shall withstand steady burning;
- a level indicator;
  - connections with shut-off devices, for pipes and hoses.
- Intermediate bulk containers (IBCs), tank containers and portable tanks intended to collect cargo remains, cargo residues or slops shall be equipped with:
- a connection enabling gases released during filling to be evacuated safely;
  - a possibility of indicating the degree of filling;

- connections with shut-off devices, for pipes and hoses.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks shall be connected to the vapour pipe of cargo tanks only for the time necessary to fill them in accordance with 7.2.4.15.2.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks placed on the deck shall be located at a minimum distance from the hull equal to one quarter of the vessel's breadth."

9.3.2.28 Read:

**“9.3.2.28 *Water-spray system***

When water-spraying is required in column (9) of Table C of Chapter 3.2, a water-spray system shall be installed in the cargo area on deck to enable gas emissions from loading to be precipitated and to cool the tops of cargo tanks by spraying water over the whole surface so as to avoid safely the activation of the high-velocity vent valve at 50 kPa.

The gas precipitation system shall be fitted with a connection device for supply from a shore installation.

The spray nozzles shall be so installed that the entire cargo deck area is covered and the gases released are precipitated safely.

The system shall be capable of being put into operation from the wheelhouse and from the deck. Its capacity shall be such that when all the spray nozzles are in operation, the outflow is not less than 50 litres per square metre of deck area and per hour.”

9.3.3.11.4 Third paragraph, end of second sentence, read:

“... provided that the discharge pipes are fitted with shut-off devices at the outlet from the cargo tank and in the cargo pump-room direct at the bulkhead.”

Third paragraph, add the following as the penultimate sentence:

“All penetrations in cargo tanks shall be fitted with stop valves.”

9.3.3.11.10 Delete.

9.3.3.11.11 Becomes 9.3.3.11.10.

9.3.3.12.9 Delete.

9.3.3.12.10 Delete.

9.3.3.21.1 (f) Read:

“(f) an instrument for measuring the temperature of the cargo if in column (9) of Table C of Chapter 3.2 a heating installation is required or if in column (20) a

possibility of heating the cargo is required or if a maximum temperature is indicated;”

9.3.3.21.7 Second paragraph, first sentence, after “activate the alarm” insert “at latest”.

9.3.3.21.14 Delete.

9.3.3.22.7 Delete.

9.3.3.25.2 Delete (h).

9.3.3.25.13 Delete.

9.3.3.26.3 Leave only the first sentence with this number. Transfer the rest to a new 9.3.3.26.4 with the following amendments:

Read: “The high-velocity vent valve shall be so regulated” instead of “The valve shall be so regulated”.

Replace the last sentence by:

Intermediate bulk containers (IBCs), tank containers and portable tanks intended to collect cargo remains, cargo residues or slops shall be equipped with:

- a connection enabling gases released during filling to be evacuated safely;
- a possibility of indicating the degree of filling;
- connections with shut-off devices, for pipes and hoses.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks shall be connected to the vapour pipe of cargo tanks only for the time necessary to fill them in accordance with 7.2.4.15.2.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks placed on the deck shall be located at a minimum distance from the hull equal to one quarter of the vessel’s breadth.”

9.3.3.26.4 Becomes 9.3.3.26.5.

9.3.3.28 Read:

**“9.3.2.28 *Water-spray system***

When water-spraying is required in column (9) of Table C of Chapter 3.2, a water-spray system shall be installed in the cargo area on deck for the purpose of cooling the tops of cargo tanks by spraying water over the whole surface so as to avoid safely the activation of the high-velocity vent valve at 10 kPa or as regulated.

The spray nozzles shall be so installed that the entire cargo deck area is covered and the gases released are precipitated safely.

The system shall be capable of being put into operation from the wheelhouse and from the deck. Its capacity shall be such that when all the spray nozzles are in operation, the outflow is not less than 50 litres per square metre of deck area and per hour.”

9.3.3.42.25 Delete.

**General amendment:**

*When reference is made to residual cargo tanks, “réservoir/réservoirs” should be replaced by “citerne/citernes” throughout the French version of the annexed Regulations, where appropriate. (Concerns the French text only).*

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