



Training Package

TP N° 16/09

ADR 2013 Changes

EUROPEAN INDUSTRIAL GASES ASSOCIATION AISBL
AVENUE DES ARTS 3 – 5 • B-1210 BRUSSELS

PHONE +32 2 217 70 98 • FAX + 32 2 219 85 14 • E-mail : info@eiga.eu + www.eiga.eu

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Introduction

Note:

This training package only considers some of the changes that will affect class 2 substances and other items of interest to EIGA members. It does not consider every change in ADR 2013. It is the responsibility of the industrial gas companies to ensure that they fully comply with all the requirements of ADR.

Black text is the original in ADR

Green text is additional in ADR 2013

Red text has been deleted

Blue text is clarification

New Entry Chemicals Under Pressure

2.2.2.1.7 Chemicals under pressure Assignment

There are numerous additions and changes through out the text of ADR 2013 due to these new entries.

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
3504	CHEMICAL UNDER PRESSURE, FLAMMABLE, TOXIC, N.O.S.	2	8TF	-	2.1 +6.1	274 659	0	E0	P206	PP89	MP9	T50	TP4 TP40			FL	1 (B/D)	-	-	CV9 CV10 CV12 CV28 CV36	S2	263
3505	CHEMICAL UNDER PRESSURE, FLAMMABLE, CORROSIVE, N.O.S.	2	8FC	-	2.1 +8	274 659	0	E0	P206	PP89	MP9	T50	TP4 TP40			FL	1 (B/D)	-	-	CV9 CV10 CV12 CV36	S2	238

New Entry Chemicals Under Pressure

3500	CHEMICAL UNDER PRESSURE, N.O.S.	2	8A	-	2.2	274 659	0	E0	P206	-	MP9	T50	TP4 TP40		AT	3 (C/E)	-	-	CV9 CV10 CV12 CV36		20
3501	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.	2	8F	-	2.1	274 659	0	E0	P206	PP89	MP9	T50	TP4 TP40		FL	2 (B/D)	-	-	CV9 CV10 CV12 CV36	S2	23
3502	CHEMICAL UNDER PRESSURE, TOXIC, N.O.S.	2	8T	-	2.2 +6.1	274 659	0	E0	P206	PP89	MP9	T50	TP4 TP40		AT	1 (C/D)	-	-	CV9 CV10 CV12 CV28 CV36		26
3503	CHEMICAL UNDER PRESSURE, CORROSIVE, N.O.S.	2	8C	-	2.2 +8	274 659	0	E0	P206	PP89	MP9	T50	TP4 TP40		AT	1 (C/D)	-	-	CV9 CV10 CV12 CV36		28

Chemicals Under Pressure

Chemicals under pressure		
Classification code	UN No.	Name of the substance or article
8A	3500	CHEMICAL UNDER PRESSURE, N.O.S.
8F	3501	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.
8T	3502	CHEMICAL UNDER PRESSURE, TOXIC, N.O.S.
8C	3503	CHEMICAL UNDER PRESSURE, CORROSIVE, N.O.S.
8TF	3504	CHEMICAL UNDER PRESSURE, FLAMMABLE, TOXIC, N.O.S.
8FC	3505	CHEMICAL UNDER PRESSURE, FLAMMABLE, CORROSIVE, N.O.S.

Exemptions

1.1.3.9 Exemptions related to dangerous goods used as a coolant or conditioner during carriage

Dangerous goods, that are only asphyxiant (which dilute or replace the oxygen normally in the atmosphere), when used in vehicles or containers for cooling or conditioning purposes are only subject to the provisions of section 5.5.3."

Standards

"1.1.5 *Application of standards*

Where the application of a standard is required and there is any conflict between the standard and the provisions of ADR, the provisions of ADR take precedence."

1.2.1 Definitions

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

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

1.2.1 Definitions

Add “*Liquefied Petroleum Gas (LPG)*” means a low pressure liquefied gas composed of one or more light hydrocarbons which are assigned to UN Nos. 1011, 1075, 1965, 1969 or 1978 only and which consists mainly of propane, propene, butane, butane isomers, butene with traces of other hydrocarbon gases.

NOTE 1: *Flammable gases assigned to other UN numbers shall not be regarded as LPG.*

1.2.1 Definitions

"*Salvage pressure receptacle* means a pressure receptacle with a water capacity not exceeding 1 000 litres into which are placed damaged, defective, leaking or nonconforming pressure receptacle(s) for the purpose of carriage e.g. for recovery or disposal;"

1.4.3.3.(f) Loaders Duties

Replace

(f) He shall, after filling the tank, check the leakproofness of the closing devices;

"(f) He shall, after filling the tank, ensure that all closures are in a closed position and that there is no leakage;".

1.6.1.25 Transitional Measures

Add Packages marked with a UN number in accordance with the provisions of ADR applicable up to 31 December 2012 and which do not conform to the requirements of 5.2.1.1 regarding the size of the UN number and of the letters "UN" applicable as from 1 January 2013 may continue to be used until 31 December 2013, and, for cylinders of 60 litres water capacity or less, until the next periodic inspection but no later than 30 June 2018."

1.6.1.11 Transitional Measures

"1.6.2.11 Gas cartridges constructed and prepared for carriage before 1 January 2013 for which the requirements of 1.8.6, 1.8.7 or 1.8.8 for the conformity assessment of gas cartridges have not been applied may still be carried after this date, provided all the other applicable provisions of ADR are met."

1.6.2.12 Transitional Measures

Add " Salvage pressure receptacles may continue to be constructed and approved according to national regulations up to 31 December 2013. Salvage pressure receptacles constructed and approved in accordance with national regulations before 1 January 2014 may continue to be used with the approval of the competent authorities of the countries of use."

1.6.4 -Transitional Measures

Add "1.6.4.42 Tank-containers constructed before 1 July 2013 in accordance with the requirements in force up to 31 December 2012, but which do not, however, meet the marking provisions of 6.8.2.5.2 or 6.8.3.5.6 applicable as from 1 January 2013, may continue to be marked in accordance with the requirements applicable up to 31 December 2012 until the next periodic inspection after 1 July 2013."

Add "1.6.4.43 Portable tanks and MECGs manufactured before 1 January 2014 need not comply with the requirements of 6.7.2.13.1 (f), 6.7.3.9.1 (e), 6.7.4.8.1 (e) and 6.7.5.6.1 (d) concerning the marking of the pressure relief devices."

1.8.7.2.5 Type Approval

Add "In the case of a modification of a pressure receptacle, tank, battery-wagon/vehicle or MEGC with a valid, expired or withdrawn type approval, the testing, inspection and approval are limited to the parts of the pressure receptacle, tank, battery-wagon/vehicle or MEGC that have been modified. The modification shall meet the provisions of RID/ADR applicable at the time of the modification. **For all parts of the pressure receptacle, tank, battery-wagon/vehicle or MEGC not affected by the modification, the documentation of the initial type approval remains valid.**

A modification may apply to one or more pressure receptacles, tanks, battery-wagons/vehicles or MEGCs covered by a type approval.

A certificate approving the modification shall be issued

1.9 Tunnel Category

1.9.5.2.2 For tunnel category E, Restriction for all dangerous goods other than UN Nos. 2919, 3291, 3331, 3359 and 3373 "and for all dangerous goods in accordance with the provisions of Chapter 3.4 if the quantities carried exceed 8 tonnes (total gross mass) per transport unit".

1.9.5.3.6 Tunnel restrictions shall apply to transport units for which an orange coloured plate marking in accordance with 5.3.2 is required and, for tunnels of category E, they shall apply also to transport units for which a marking in accordance with 3.4.13 is required or carrying containers for which a marking in accordance with 3.4.13 is required.

Tunnel restrictions shall not apply when dangerous goods are carried in accordance with 1.1.3, except when vehicles carrying such goods are marked in accordance with 3.4.13 as defined in 3.4.14."

2.2.2.1.6 Aerosols

NOTE: *Gases, which meet the definition of toxic gases according to 2.2.2.1.5 or of pyrophoric gases according to packing instruction P200 and gases identified as "Considered as pyrophoric" by table note c of Table 2 of packing instruction P200" in 4.1.4.1, shall not be used as a propellant in an aerosol dispenser. Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall not be accepted for carriage (see also 2.2.2.2.2).*

Standards

2.2.2.1.5 Under "Flammable gases", replace "ISO 10156:1996" with "ISO 10156:2010".

2.2.2.1.5 Under "Oxidizing gases", replace "ISO 10156:1996 or ISO 10156-2:2005" with "ISO 10156:2010".

2.2.2.1.- Chemicals under Pressure

Add 2.2.2.1.2

"8. Chemicals under pressure: liquids, pastes or powders, pressurized with a propellant that meets the definition of a compressed or liquefied gas and mixtures thereof."

Add 2.2.2.1.7

Chemicals under pressure

Chemicals under pressure (UN Nos. 3500 to 3505) are assigned to one of the following groups according to their hazardous properties, as follows:

...

The classification depends on the hazard characteristics of the components in the different states:

The propellant;

The liquid; or

The solid.

...

2.2.62.1.5.7 Medical devices

(c) Medical devices or equipment contaminated with or containing other dangerous goods that meet the definition of another class, medical devices or equipment potentially contaminated with or containing infectious substances which are being carried for disinfection, cleaning, sterilization, repair, or equipment evaluation are not subject to provisions of ADR other than those of this paragraph ...

Chapter 3.2, Table A

For UN 1006 (Argon) 1046 (Helium), For UN Nos. 1072 (Oxygen), 1956 (COMPRESSED GAS, N.O.S.) and 3156, (COMPRESSED GAS, OXIDIZING, N.O.S.) insert “653” in column 6

653

"The carriage of this gas in cylinders having a test pressure capacity product of maximum **15.2 MPa.litre** (**152 bar.litre**) is not subject to the other provisions of ADR if the following conditions are met:".

Special Provisions

296 These entries apply to life-saving appliances such as life rafts, ...

Life-saving appliances may contain:

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

Special Provisions

SP296 Add the following new paragraph at the end:

"Life-saving appliances packed in strong rigid outer packagings with a total maximum gross mass of 40 kg, containing no dangerous goods other than compressed or liquefied gases of Class 2, group A or group O, in receptacles with a capacity not exceeding 120 ml, installed solely for the purpose of the activation of the appliance, are not subject to the requirements of ADR."

Special Provisions 653

Amend the first sentence to read as follows:

653 The carriage of this gas in cylinders having a test pressure capacity product of maximum **15 MPa.litre (150 bar.litre)** **15.2 MPa.litre (152 bar.litre)** is not subject to the other provisions of ADR if the following conditions are met:...

Amend the beginning of the fifth indent to read as follows:

"Each package is clearly and durably marked with **"UN 1006"** for **argon compressed**, **"UN 1013"** for carbon dioxide, **"UN 1046"** for **helium compressed** or **"UN 1066"** for nitrogen, compressed..."

SP New Entry

For UN Nos. 1011 (Butane), 1969 (ISOBUTANE) and 1978 (Propane), insert “657” in column (6).

657 This entry shall be used for the technically pure substance only; for mixtures of LPG components, see UN No. 1965 (HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C) or see UN No. 1075 (PETROLEUM GASES, LIQUEFIED) in conjunction with NOTE 2 in 2.2.2.3.”

Special Provisions 660

For the carriage of fuel gas containment systems designed to be fitted in motor vehicles containing this gas the provisions of sub-section 4.1.4.1, Chapter 5.2, Chapter 5.4 and Chapter 6.2 of ADR need not be applied, provided the following conditions are met:...

Limited Quantities

3.4.13 (a) Amend to read as follows:

"(a) Transport units with a maximum mass exceeding 12 tonnes carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 at the front and at the rear except **when the transport unit contains other dangerous goods for which orange-coloured plate marking in accordance with 5.3.2 is required. In this latter case, the transport unit may display the required orange-coloured plate marking only, or both the orange-coloured plate marking in accordance with 5.3.2 and the marking in accordance with 3.4.15. "**

Limited Quantities

3.4.13 (b) Amend to read as follows:

"(b) Containers carrying dangerous goods in limited quantities, on transport units with a maximum mass exceeding 12 tonnes, shall be marked in accordance with 3.4.15 on all four sides **except when the container contains other dangerous goods for which placarding in accordance with 5.3.1 is required. In this latter case, the container may display the required placards only, or both the placards in accordance with 5.3.1 and the marking in accordance with 3.4.15.**"

4.1.1.20 Salvage Pressure Receptacles

New Section.

4.1.1.20 *Use of salvage pressure receptacles*

4.1.1.20.1 In the case of damaged, defective, leaking or non-conforming pressure receptacles, salvage pressure receptacles according to 6.2.3.11 may be used.

...

...

Large number of other additions through out the text.

P200

(3) (d) the maximum test period for periodic inspection of the pressure receptacles;

NOTE: *For pressure receptacles which make use of composite materials, the periodic inspection frequencies shall be as determined by the competent authority which approved the receptacles. which issued the type approval".*

2. Operational provisions

2.5 To prevent internal corrosion, only gases of high quality with very low potential contamination shall be filled into the cylinders. This is deemed to be fulfilled, if the gases conform to **the corrosion contaminates level of EN 1440:2008, annex E.1, letter b. ISO 9162"**.

(7) add a new subparagraph (b) to read as follows:

"(b) LPG to be filled in cylinders shall be of high quality; this is deemed to be fulfilled if the LPG to be filled is in compliance with the limitations on corrosiveness as specified in ISO 9162."

Standards P200

(9)

By derogation from this paragraph, the periodic inspection of pressure receptacles which make use of composite materials (composite pressure receptacles) shall be carried out at intervals determined by the **competent authority of the Contracting Party to ADR which has approved the technical code for the design and construction by the competent authority which issued the type approval**".

(11) Delete the rows for standards "EN 1801:1998" and "EN 12755:2000"

requirements		
(10) p	EN ISO 11372:[2011]	Gas cylinders – Acetylene cylinders – Filling conditions and filling inspection [(ISO 11372:2010)]

P200

(10) Keys for the column "Special packing provisions":

Material compatibility (for gases see ISO 11114-1:1997 and ISO 11114-2:2000)

a: Aluminium alloy pressure receptacles **are not authorized. shall not be used**

d: When steel pressure receptacles are used, only those **resistant to hydrogen embrittlement shall be authorized bearing the "H" mark in accordance with 6.2.2.7.4 (p) are permitted.**

(11) Delete the rows for standards **"EN 1801:1998" and "EN 12755:2000"**

P201 Gas Samples Chemicals under Pressure

P201	PACKING INSTRUCTION	P201
This instruction applies to UN Nos. 3167, 3168 and 3169.		
The following packagings are authorized:		
(1) Cylinders and gas receptacles conforming to the construction, testing and filling requirements approved by the competent authority.		
(2) The following combination packagings provided that the general provisions of 4.1.1 and 4.1.3 are met:		
Outer packagings:		
Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G);		
Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2);		
Jerricans (3A1, 3A2, 3B1, 3B2, 3H1, 3H2).		
Inner packagings:		
(a) For non-toxic gases, hermetically sealed inner packagings of glass or metal with a maximum capacity of 5 litres per package;		
(b) For toxic gases, hermetically sealed inner packagings of glass or metal with a maximum capacity of 1 litre per package.		
Packagings shall conform to the packing group III performance level.		

P200

P200, Table 2: For UN Nos. 1008 (BORON TRIFLUORIDE), 1076 (PHOSGENE), 1741 (BORON TRICHLORIDE), 1859 (SILICON TETRAFLUORIDE), 2189 (DICHLOROSILANE) and 2418 (SULPHUR TETRAFLUORIDE), insert "a" in column "Special packing provisions".

P200, Table 3: For UN No. 1052, (HYDROGEN FLUORIDE, ANHYDROUS) insert "a" in column "Special packing provisions".

a Aluminium alloy pressure receptacles shall not be used

P203

Under "Requirements for closed cryogenic receptacles", add a new paragraph

"(8) Periodic inspection

The periodic inspection and test frequencies of pressure relief valves in accordance with 6.2.1.6.3 shall not exceed five years."

P206 Chemicals under Pressure

4.1.4.1 Add the following new packing instructions:

P206	PACKING INSTRUCTION	P206
	This instruction applies to UN Nos. 3500, 3501, 3502, 3503, 3504 and 3505.	
	Unless otherwise indicated in ADR, cylinders and pressure drums conforming to the applicable requirements of Chapter 6.2 are authorized.	
	<ol style="list-style-type: none"> (1) The special packing provisions of 4.1.6 shall be met. (2) The maximum test period for periodic inspection shall be 5 years. (3) Cylinders and pressure drums shall be so filled that at 50 °C the non-gaseous phase does not exceed 95% of their water capacity and they are not completely filled at 60 °C. When filled, the internal pressure at 65 °C shall not exceed the test pressure of the cylinders and pressure drums. The vapour pressures and volumetric expansion of all substances in the cylinders and pressure drums shall be taken into account. (4) The minimum test pressure shall be in accordance with packing instruction P200 for the propellant but shall not be less than 20 bar. 	
	<p>Additional requirement:</p> <p>Cylinders and pressure drums shall not be offered for carriage when connected with spray application equipment such as a hose and wand assembly.</p>	
	<p>Special packing provision:</p> <p>PP89 For UN Nos. 3501, 3502, 3503, 3504 and 3505, notwithstanding 4.1.6.9 (b), non-refillable cylinders used may have a water capacity in litres not exceeding 1 000 litres divided by the test pressure expressed in bars provided capacity and pressure restrictions of the construction standard comply with ISO 11118:1999, which limits the maximum capacity to 50 litres.</p>	

Aerosols

P207	PACKING INSTRUCTION	P207
This instruction applies to UN No. 1950.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(a)	Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2). Packagings shall conform to the packing group II performance level.	
(b)	Rigid outer packagings with a maximum net mass as follows: Fibreboard 55 kg Other than fibreboard 125 kg The provisions of 4.1.1.3 need not be met.	
The packagings shall be designed and constructed to prevent movement of the aerosols and inadvertent discharge during normal conditions of carriage.		
Special packing provision:		
PP87 For UN 1950 waste aerosols carried in accordance with special provision 327, the packagings shall have a means of retaining any free liquid that might escape during carriage, e.g. absorbent material. The packaging shall be adequately ventilated to prevent the creation of flammable atmosphere and the build-up of pressure.		
RR6 For UN 1950 in the case of carriage by full load, metal articles may also be packed as follows: the articles shall be grouped together in units on trays and held in position with an appropriate plastics cover; these units shall be stacked and suitably secured on pallets.		

Renumber existing P206 as P208 and, in Table A of Chapter 3.2, for UN No. 3150 in column (8), replace "P206" with "P208".

4.1.1.20 Salvage Pressure Receptacles

Sets out the requirements for salvage pressure receptacles

"4.1.1.20 *Use of salvage pressure receptacles*

4.1.1.20.1 In the case of damaged, defective, leaking or non-conforming pressure receptacles, salvage pressure receptacles according to 6.2.3.11 may be used.

4.1.1.20.2 Pressure receptacles shall be placed in ...

4.1.1.20.3 A pressure receptacle may only be placed in ...

4.1.1.20.4 The proper shipping name, the UN Number

4.1.1.20.5 Salvage pressure receptacles shall be cleaned,

...

UN Pressure Receptacles

4.1.6.15 replace "ISO 11117:1998" with "either ISO 11117:1998 or ISO 11117:2008 + Cor 1:2009".

4.1.6.15 replace "ISO 11621:2005" with: "ISO 11621:1997".

Under the title of this standard, insert a Note to read as follows:

NOTE: *The EN version of this ISO standard fulfils the requirements and may also be used.*

In the Table, replace "Annex A of EN ISO 10297:2006" with: "Annex A of ISO 10297:2006".

Under the title of this standard, insert a Note to read as follows:

NOTE: *The EN version of this ISO standard fulfils the requirements and may also be used.*

4.1.6.5

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

4.1.6.10

Refillable pressure receptacles, other than cryogenic receptacles, shall be periodically inspected ...for non UN receptacles, and packing instruction P200 P205 or P206 as applicable....

Add "Pressure relief valves for closed cryogenic receptacles shall be subject to periodic inspections and tests according to the provisions of 6.2.1.6.3 and packing instruction P203."

4.3.2.3.3

During filling and discharge of tanks, battery-vehicles and MEGCs, appropriate measures shall be taken to prevent the release of dangerous quantities of gases and vapours... The leakproofness of the closures of the tanks, and of the battery-vehicles and MEGCs shall be checked by the filler after the tank is filled...After filling, the filler shall ensure that all the closures of the tanks, battery-vehicles and MEGCs are in the closed position and there is no Leakage...

Coding of Tanks

4.3.3.1.1 NOTE 2 becomes NOTE 3.

Insert a new NOTE 2 to read as follows:

NOTE 2: *The special provision TU40 indicated in Column (13) of Table A in Chapter 3.2 for certain gases means that the gas may only be carried in a battery-vehicle or MEGC, the elements of which are composed of seamless receptacles."*

Add a new special provision TU40 to read as follows:

"TU40 Only to be carried in battery-vehicles or MEGCs, the elements of which are composed of seamless receptacles."

1081 TETRAFLUOROETHYLENE, STABILIZED

4.3.3.3.4

"4.3.3.3.4 When the external overpressure could be greater than the tank resistance to external pressure (e.g. due to low ambient temperatures), adequate measures shall be taken to protect tanks carrying low pressure liquefied gases against the risk of deformation, e.g. by filling them with nitrogen or another inert gas in order to maintain sufficient pressure inside the tank."

5.2 MARKING AND LABELLING

5.2.1.1 "UN" shall be at least 12 mm high, except for packages of 30 litres capacity or less or of 30 kg maximum net mass and for cylinders of 60 litres water capacity or less, when they shall be at least 6 mm in height and except for packages of 5 litres or 5 kg or less when they shall be of an appropriate size."

5.2.1.3

Salvage packagings and salvage pressure receptacles shall additionally be marked with the word "**SALVAGE**".

5.2.1.8.3 Add the following new note at the end:

*"**NOTE:** The labelling provisions of 5.2.2 apply in addition to any requirement for packages to bear the environmentally hazardous substance mark."*

5.2.1.9.2

"5.2.1.9.2 Orientation arrows are not required on:

- (a) Outer packagings containing pressure receptacles except cryogenic receptacles; ...
- (a) Pressure receptacles except for cryogenic receptacles;

Labelling

5.2.2.2.1.2:

Cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for carriage, bear labels representative of those specified in this section, **and the environmentally hazardous substance mark when appropriate** which have been reduced in size, according to the dimensions outlined in ISO 7225:2005, "*Gas cylinders - Precautionary labels*", for display on the non-cylindrical part (shoulder) of such cylinders.

Notwithstanding the provisions of 5.2.2.1.6, **and the environmentally hazardous substance mark (see 5.2.1.8.3)** labels may overlap to the extent provided for by ISO 7225:2005. However, in all cases, the primary risk label and the figures appearing on any label shall remain fully visible and the symbols recognizable

Marking

5.3.1.7.3 Add the following sentence at the end:

For tanks with a capacity of not more than 3 m³ and for small containers, placards may be replaced by labels conforming to 5.2.2.2.

If these labels are not visible from outside the carrying vehicle, placards according to 5.3.1.7.1 shall also be affixed to both sides and at the rear of the vehicle."

5.3.2.1.1:

Transport units carrying dangerous goods shall display two rectangular orange-coloured

plates conforming to 5.3.2.2.1, set in a vertical plane. They shall be affixed one at the front and the other at the rear of the transport unit, both perpendicular to the longitudinal axis of the transport unit. They shall be clearly visible. "If a trailer containing dangerous goods is detached from its motor vehicle during carriage of dangerous goods, an orange-coloured plate shall remain affixed to the rear of the trailer."

Documentation

5.4.1.1.5 Amend to read as follows:

"5.4.1.1.5 ...

When dangerous goods are carried in a salvage packaging or salvage pressure receptacle, the words "**SALVAGE PACKAGING**" or "**SALVAGE PRESSURE RECEPTACLE**" shall be added after the description of the goods in the transport document."

5.4.1.1.18 ...the transport document shall bear the additional inscription "ENVIRONMENTALLY HAZARDOUS". or "**MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS**"...

The inscription "MARINE POLLUTANT" (according to 5.4.1.4.3 of the IMDG Code) **instead of "ENVIRONMENTALLY HAZARDOUS"** is acceptable for carriage in a transport chain including maritime carriage.

5.5.3...containing substances presenting a risk of asphyxiation

"5.5.3 Special provisions applicable to packages and vehicles and containers containing substances presenting a risk of asphyxiation when used for cooling or conditioning purposes (such as dry ice (UN 1845) or nitrogen, refrigerated liquid (UN 1977) or argon, refrigerated liquid (UN 1951))

5.5.3.1 *Scope*

5.5.3.1.1 This section is not applicable to substances which may be used for cooling or conditioning purposes ...

5.5.3.1.2 This section is not applicable to gases in cooling cycles.

5.5.3.1.3 Dangerous goods used for cooling or conditioning tanks ...

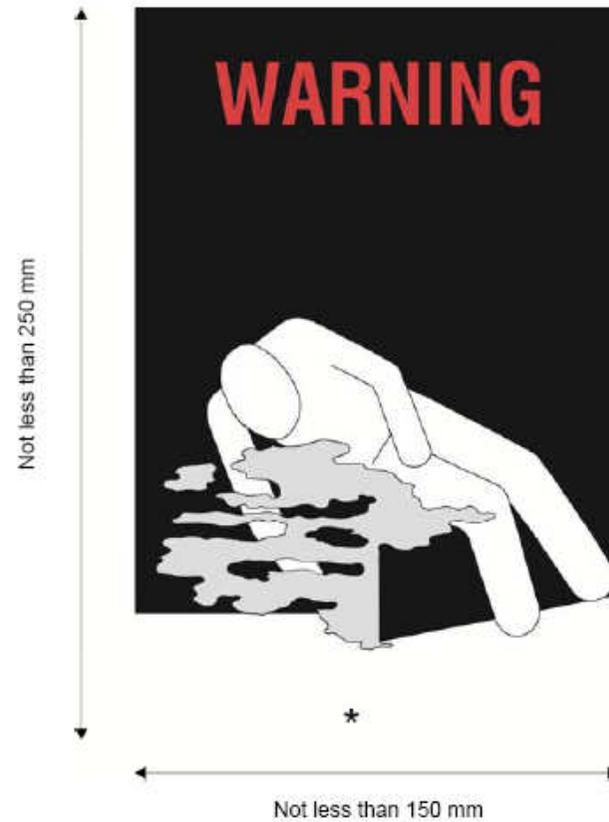
5.5.3.2 *General*

5.5.3.2.1 Vehicles and containers containing substances ...

5.5.3.2.2 When dangerous goods are loaded in cooled

- ...containing substances presenting a risk of asphyxiation

An illustration of this mark is given below.



6.2

Chapter 6.2

6.2.1.1.5 "The test pressure of cylinders, tubes, pressure drums and bundles of cylinders shall be in accordance with packing instruction P200 of 4.1.4.1, or, for a chemical under pressure, with packing instruction P206 of 4.1.4.1."

6.2.1.6.1

NOTE 4: For the periodic inspection and test frequencies, see packing instruction P200 of 4.1.4.1 or, for a chemical under pressure, packing instruction P206 of 4.1.4.1."

"6.2.1.6.3

Pressure relief valves for closed cryogenic receptacles shall be subject to periodic inspections and tests."

6.2 Standards

Part 6

Chapter 6.2

6.2.4.1, table, under "For design and construction":

In the row for standard "EN 12245:2002", amend the text in column (4) to read "Before 1 January 2015".

After the row for standard "EN 12245:2002", add a new row to read as follows:

EN 12245:2009 +A1:[2011]	Transportable gas cylinders – Fully wrapped composite cylinders	6.2.3.1 and 6.2.3.4	Until further notice	
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In the row for standard "EN 13769:2003 +A1:2005" amend the text in column (4) to read "Before 1 January 2015".

After the row for standard "EN 13769:2003 +A1:2005", add a new row to read as follows:

EN ISO 10961:[2012]	Gas cylinders – Cylinder bundles – Design, manufacture, testing and inspection	6.2.3.1 and 6.2.3.4	Until further notice	
------------------------	--	------------------------	----------------------	--

(Reference document: Informal document INF.51)

6.2.4.2 At the end of the table add the following new rows:

EN 15888:[2011]	Transportable gas cylinders - Cylinder bundles - Periodic inspection and testing		Mandatory from 1 January 2015
EN 1440:2008 +A1:[2012] (except Annexes G and H)	LPG equipment and accessories – Periodic inspection of transportable refillable LPG cylinders		Mandatory from 1 January 2015

(Reference document: Informal document INF.51)

6.2.6.4 In the second indent, replace "EN 417:2003" with "EN 417:[2011]".

(Reference document: Informal document INF.51)

6.2 Standards

6.2.2.3 In the first table, amend the row for ISO 11117:1998 to read as follows:

ISO 11117:2008 + Cor 1:2009	Gas cylinders – Valve protection caps and valve guards – Design, construction and tests <i>NOTE: Construction according to ISO 11117:1998 may continue until 31 December 2014.</i>
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At the end of the first table, add a new row to read as follows:

ISO 13340:2001	Transportable gas cylinders – Cylinder valves for non-refillable cylinders – Specification and prototype testing
----------------	--

(Reference document: ECE/TRANS/WP.15/AC.1/2011/30/Add.1)

6.2.2.4 Insert the following new row in the table:

ISO 10460:2005	Gas cylinders – Welded carbon-steel gas cylinders – Periodic inspection and testing <i>NOTE: The repair of welds described in clause 12.1 of this standard shall not be permitted. Repairs described in clause 12.2 require the approval of the competent authority which approved the periodic inspection and test body in accordance with 6.2.2.6.</i>
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6.2.3

6.2.3.6.1

The conformity assessment of valves and other accessories “The conformity assessment of valves and other accessories” with “For refillable pressure receptacles, the conformity assessment of valves and other demountable accessories having a direct safety function may be carried out separately from the receptacles and the conformity assessment procedure shall be at least as stringent as that undergone by the pressure receptacle to which they are fitted.

6.2.3 Bundles

6.2.3.9 Add the following new 6.2.3.9.7:

"6.2.3.9.7 Marking of bundles of cylinders

6.2.3.9.7.1 Individual cylinders in a bundle of cylinders shall be marked in accordance with 6.2.3.9.

6.2.3.9.7.2 A plate permanently attached to the frame of the bundle shall bear the following markings:

(a) The certification marks specified in 6.2.2.7.2 (b), (c), (d) and (e);

(b) The operational marks specified in 6.2.2.7.3 (f), (i), (j) and the gross mass which shall include the mass of the frame of the bundle and all permanently attached parts ...

(c) The manufacturing marks specified in 6.2.2.7.4 (n), (o) and, where applicable, (p). 6.2.3.9.7.3 The marks shall be placed in three groups:

6.2.3.11 *Salvage pressure receptacles*

"6.2.3.11 *Salvage pressure receptacles*

6.2.3.11.1 To permit the safe handling and disposal of the pressure receptacles carried within the salvage pressure receptacle, the design may include equipment not otherwise used for cylinders or pressure drums such as flat heads, quick opening devices and openings in the cylindrical part.

6.2.3.11.2 Instructions on the safe handling and use of the salvage pressure receptacle shall be clearly shown in the documentation ...

6.2.3.11.3 A copy of the approval certificate shall be delivered by the manufacturer to the owner of a salvage pressure receptacle.

6.2.3.11.4 The marking of salvage pressure receptacles according to 6.2.3 shall be determined by the competent authority of the country of approval in taking into account suitable marking provisions of 6.2.3.9 as appropriate. The marking shall include the water capacity and test pressure of the salvage pressure receptacle."

Applicable Standards

6.2.4.1 In the table, under “for design and construction”, make the following amendments:

In the entry for standard “EN 1964-1:1999”, in column (4), replace “Until further notice” with “Until 31 December 2014”.

In the entry for standard “EN 1964-2:2001”, in column (4), replace “Until further notice” with “Until 31 December 2014”.

After the entry for standard “EN 1964-2:2001”, insert the following standards:

(1)	(2)	(3)	(4)	(5)
EN ISO 9809-1:2010	Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 1: Quenched and tempered steel cylinders with tensile strength less than 1100 MPa (ISO/DIS 9809-1:2008)	6.2.3.1 and 6.2.3.4	Until further notice	
EN ISO 9809-2:2010	Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 2: Quenched and tempered steel cylinders with tensile strength greater than or equal to 1100 MPa (ISO/DIS 9809-2:2008)	6.2.3.1 and 6.2.3.4	Until further notice	
EN ISO 9809-3:2010	Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 3: Normalized steel cylinders (ISO/DIS 9809-3:2008)	6.2.3.1 and 6.2.3.4	Until further notice	

Applicable Standards

In the Table, under “for closures”, make the following amendments:

Before the entry for standard “EN 13152:2001”, insert the following standard:

(1)	(2)	(3)	(4)	(5)
EN ISO 14245:2010	Gas cylinders — Specifications and testing of LPG cylinder valves — Self-closing (ISO 14245:2006) †	6.2.3.3	Until further notice	

In the entry for standard “EN 13152:2001 + A1:2003”, in column (4), replace “Until further notice” with “Between 1 January 2009 and 31 December 2014”.

Before the entry for standard “EN 13153:2001”, insert the following standard:

(1)	(2)	(3)	(4)	(5)
EN ISO 15995:2010	Gas cylinders — Specifications and testing of LPG cylinder valves — Manually operated (ISO 15995:2006) †	6.2.3.3	Until further notice	

In the entry for standard “EN 13153:2001 + A1:2003”, in column (4), replace “Until further notice” with “Between 1 January 2009 and 31 December 2014”.

Applicable Standards

6.2.4.1:

In the table under “*for closures*”, amend column (3) for the seven entries to read “6.2.3.1 and 6.2.3.3”. For reference “EN 849:1996 (except Annex A)”, add in column (5) “31 December 2014”. For reference “EN 849:1996 + A2:2001”, add in column (5) “31 December 2016”.

In the table under “*for design and construction*”, add a new line to read as follows:

EN 14638-3:2010	Transportable gas cylinders — Refillable welded receptacles of a capacity not exceeding 150 litres — Part 3: Welded carbon steel cylinders made to a design justified by experimental methods	6.2.3.1 and 6.2.3.4	Until further notice
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(Reference document: ECE/TRANS/WP.15/210, annex II)

6.2.4.1 In the Table, under “for design and construction”, in column (4), for standard “EN 1975:1999 + A1:2003”, replace “Until further notice” with: “Before 1 January 2015”.

(Reference documents: ECE/TRANS/WP.15/AC.1/122, Annex II)

In the Table, under “for design and construction”, after standard “EN 14893:2006 + AC:2007”, insert the following new standard:

Applicable Standards

6.2.4.1 In the Table, under "for design and construction", in column (4), for standard "EN 1975:1999 + A1:2003", replace "Until further notice" with: "Before 1 January 2015".

(Reference documents: ECE/TRANS/WP.15/AC.1/122, Annex II)

In the Table, under "for design and construction", after standard "EN 14893:2006 + AC:2007", insert the following new standard:

<i>Reference</i>	<i>Title of document</i>	<i>Applicable sub-sections and paragraphs</i>	<i>Applicable for new type approvals or for renewals</i>	<i>Latest date for withdrawal of existing type approvals</i>
(1)	(2)	(3)	(4)	(5)
[EN ISO 7866:2011	Gas cylinders – refillable seamless aluminium alloy gas cylinders – Design, construction and testing (ISO/DIS 7866:2011)]	6.2.3.1 and 6.2.3.4	Until further notice	

(Reference documents: ECE/TRANS/WP.15/AC.1/122, Annex II + ECE/TRANS/WP.15/AC.1/124/Add.1)

In the Table, under "for closures", after standard "EN 13153:2001 + A1:2003", insert the following new standard:

Applicable Standards

<i>Reference</i>	<i>Title of document</i>	<i>Applicable sub-sections and paragraphs</i>	<i>Applicable for new type approvals or for renewals</i>	<i>Latest date for withdrawal of existing type approvals</i>
(1)	(2)	(3)	(4)	(5)
EN ISO 13340:2001	Transportable gas cylinders – Cylinder valves for non-refillable cylinders – Specification and prototype testing	6.2.3.1 and 6.2.3.3	Until further notice	

(Reference documents: ECE/TRANS/WP.15/AC.1/122, Annex II)

6.2.4.1, table, under "For design and construction":

In the row for standard "EN 12245:2002", amend the text in column (4) to read "Before 1 January 2015".

After the row for standard "EN 12245:2002", add a new row to read as follows:

EN 12245:2009 +A1:[2011]	Transportable gas cylinders – Fully wrapped composite cylinders	6.2.3.1 and 6.2.3.4	Until further notice	
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In the row for standard "EN 13769:2003 +A1:2005" amend the text in column (4) to read "Before 1 January 2015".

Applicable Standards

After the row for standard "EN 13769:2003 +A1:2005", add a new row to read as follows:

EN ISO 10961:[2012]	Gas cylinders – Cylinder bundles – Design, manufacture, testing and inspection	6.2.3.1 and 6.2.3.4	Until further notice	
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(Reference document: ECE/TRANS/WP.15/AC.1/124/Add.1)

6.2.4.2 At the end of the table add the following new rows:

EN 15888:[2011]	Transportable gas cylinders - Cylinder bundles - Periodic inspection and testing	Mandatory from 1 January 2015
EN 1440:2008 +A1:[2012] (except Annexes G and H)	LPG equipment and accessories – Periodic inspection of transportable refillable LPG cylinders	Mandatory from 1 January 2015

(Reference document: ECE/TRANS/WP.15/AC.1/124/Add.1)

6.2.6.4 In the second indent, replace "EN 417:2003" with "EN 417:[2011]".

(Reference document: ECE/TRANS/WP.15/AC.1/124/Add.1)

Chapter 6.8

6.8.2.1.19 In the table, replace "**Stainless austenitic steels**" with "**Austenitic stainless steels**" and insert a new row to read as follows:

Austenitic-ferritic stainless steels 3 mm 3.5 mm

	Diameter of shell	≤ 1.80 m	> 1.80 m
Minimum thickness of shells	Stainless austenitic steels	2.5 mm	3 mm
	Other steels	3 mm	4 mm
	Aluminium alloys	4 mm	5 mm
	Pure aluminium of 99.80%	6 mm	8 mm

6.8.2.1.20

6.8.2.1.20 For tanks built after 1 January 1990, there is protection against damage as referred to in 6.8.2.1.19 when the following measures or equivalent measures are adopted:

6.8.2.1.20 In the left-hand column, at the beginning, insert a reference to footnote * after "or equivalent". The text of the footnote reads as follows:

**** Equivalent measures means measures given in standards referenced in 6.8.2.6."**

6.8.2.6 *Requirements for tanks which are designed, constructed and tested according to referenced standards*

Add a new 6.8.2.3.4

"6.8.2.3.4 In the case of a modification of a tank with a valid, expired or withdrawn type approval, the testing, inspection and approval are limited to the parts of the tank that have been modified. The modification shall meet the provisions of ADR applicable at the time of the modification. **For all parts of the tank not affected by the modification, the documentation of the initial type approval remains valid.**

A modification may apply to one or more tanks

A certificate approving the modification shall be issued by the competent authority ...

Each application for an approval certificate for a modification shall be lodged with a single competent authority or body designated by this authority."

2011

6.8.2.5.2

The following particulars shall be inscribed on the tank-vehicle itself or on a plate ¹²:

- name of owner or operator;
- unladen mass; and
- maximum permissible mass.

These particulars shall not be required in the case of a vehicle carrying demountable tanks.

The tank code according to 4.3.4.1.1 shall be inscribed on the demountable tank itself or on a plate.

The following particulars shall be inscribed either on the tank-container itself or on a plate ¹²:

- names of owner and of operator;
- capacity of the shell;
- tare;
- maximum permissible laden mass;
- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;
- tank code according to 4.3.4.1.1;
- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank.

2013

6.8.2.5.2

The following particulars shall be inscribed on the tank-vehicle (on the tank itself or on plates) ¹²:

- name of owner or operator;
- unladen mass of the tank-vehicle; and
- maximum permissible mass of the tank-vehicle.

The following particulars shall be inscribed on a demountable tank (on the tank itself or on plates) ¹²:

- name of owner or operator;
- "demountable tank";
- tare of the tank;
- maximum permissible gross mass of the tank.
- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;
- tank code according to 4.3.4.1.1;
- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank.

The following particulars shall be inscribed on the tank-container (on the tank itself or on plates) ¹²:

- names of owner and of operator;
- capacity of the shell;
- tare;
- maximum permissible gross mass;
- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;
- tank code according to 4.3.4.1.1;
- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank.

2011

6.8.3.4.6 By derogation from the requirements of 6.8.2.4, the periodic inspections according to 6.8.2.4.2, shall take place:

- | | |
|--------------------------------|-------------------------------------|
| (a) at least every three years | at least every two and a half years |
|--------------------------------|-------------------------------------|

in the case of tanks intended for the carriage of UN No. 1008 boron trifluoride, UN No. 1017 chlorine, UN No. 1048 hydrogen bromide, anhydrous, UN No. 1050 hydrogen chloride, anhydrous, UN No. 1053 hydrogen sulphide or UN No. 1079 sulphur dioxide;

- | | |
|------------------------------|------------------------|
| (b) at least after six years | at least after 8 years |
|------------------------------|------------------------|

of service and thereafter at least every 12 years in the case of tanks intended for the carriage of refrigerated liquefied gases.

The intermediate inspections according to 6.8.2.4.3 shall be carried out at least six years after each periodic inspection.

A leakproofness test or an intermediate inspection according to 6.8.2.4.3 may be performed, at the request of the competent authority, between any two successive periodic inspections.

2013

6.8.3.4.6 Amend to read as follows:

"6.8.3.4.6 By derogation from the requirements of 6.8.2.4.2, the periodic inspections shall take place:

at least after eight/six years

of service and thereafter at least every 12 years in the case of tanks intended for the carriage of refrigerated liquefied gases.

The intermediate inspections according to 6.8.2.4.3 shall be carried out at least six years after each periodic inspection.

at least after eight years

A leakproofness test or an intermediate inspection according to 6.8.2.4.3 may be performed, at the request of the competent authority, between any two successive periodic inspections. "

7.5 Handling and stowage

7.5.7.1 Where appropriate the vehicle or container shall be fitted with devices to facilitate securing and handling of the dangerous goods.

...

ADD

"The requirements of this paragraph are deemed to be complied with when the cargo is secured in accordance with standard EN 12195-1:2010."

Fire Extinguisher Table

8.1.4.1:

Amend to read as follows:

"8.1.4.1 The following table shows the minimum provisions for portable fire extinguishers for the inflammability Classes² A, B and C that apply to transport units carrying dangerous goods except for those referred to in 8.1.4.2:

<i>(1)</i> Transport unit maximum permissible mass	<i>(2)</i> Minimum number of fire extinguishers	<i>(3)</i> Minimum total capacity per transport unit	<i>(4)</i> Extinguisher suitable for engine or cab fire. At least one with a minimum capacity of:	<i>(5)</i> Additional extinguisher(s) requirement. At least one extinguisher shall have a minimum capacity of:
≤ 3.5 tonnes	2	4 kg	2 kg	2 kg
> 3.5 tonnes ≤ 7.5 tonnes	2	8 kg	2 kg	6 kg
> 7.5 tonnes	2	12 kg	2 kg	6 kg

The capacities are for dry powder devices (or an equivalent capacity for any other suitable extinguishing agent).

".

8.6 Tunnels

8.6.4 Restrictions for the passage of transport units carrying dangerous goods through tunnels

Once the tunnel restriction code to be assigned to the whole load of the transport unit has been determined, the restrictions for the passage of this transport unit through tunnels are the following:

"The restrictions for passage through tunnels shall apply:

- to transport units for which marking is required by 3.4.13 subject to 3.4.141, through tunnels of category E; and
- to transport units for which an orange-coloured plate marking is required according to 5.3.2, in accordance with the table below once the tunnel restriction code to be assigned to the whole load of the transport unit has been determined."

8.6 Tunnels

ADD

*"**NOTE 2:** Dangerous goods packed in limited quantities carried in containers or transport units marked in accordance with the IMDG Code are not subject to the restrictions for passage through tunnels of category E when the total gross mass of the packages containing dangerous goods packed in limited quantities does not exceed 8 tonnes per transport unit."*

9.2

“9.2.2.6.3 Electrical connections

Electrical connections between motor vehicles and trailers shall have a protection degree IP54 in accordance with IEC 60529 and be designed to prevent accidental disconnection. Connections shall be in conformity with ISO 12098:2004, ISO 7638:2003 and EN 15207:2006 as appropriate.”