



Economic and Social Council

Distr.: General
13 November 2013
English
Original: English and French

Economic Commission for Europe

**Administrative Committee of the
European Agreement concerning the International Carriage
of Dangerous Goods by Inland Waterways (ADN)**

Twelfth session

Geneva, 31 January 2014

Item 5 of the provisional agenda

Work of the Safety Committee

Proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2015

Note by the secretariat^{1,2}

1. At its twenty-third session, the ADN Safety Committee asked the secretariat to consolidate in a single document for submission to the Administrative Committee all the draft amendments adopted in 2012 and 2013 that had not yet been approved by the Administrative Committee (see ECE/TRANS/WP.15/AC.2/48, para. 89 and ECE/ADN/24, para.17).

2. The present document is a consolidation of the proposed amendments to the Regulations annexed to ADN that the Safety Committee has adopted for entry into force on 1 January 2015:

(A) at its twenty-first session (ECE/TRANS/WP.15/AC.2/44, annex II);

(B) at its twenty-second session (ECE/TRANS/WP.15/AC.2/46, annex I);

(C) at its twenty-third session (ECE/TRANS/WP.15/AC.2/48, annex I).

3. Each proposed amendment is followed by a reference to the document where the amendment was proposed, together with the letter A, B or C to identify the session when it was adopted (see paragraph 2 above). When text is struck through it means that the amendments concerned have been revised by subsequent meetings or deleted by the Group which originally proposed them (see ECE/TRANS/WP.15/AC.2/2014/2).

¹ In accordance with the programme of work of the Inland Transport Committee for 2012-2016 (ECE/TRANS/224, para 94, ECE/TRANS/2012/12, programme activity 02.7, (A1b)).

² Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/2014/1.

4. The Safety Committee is expected to verify at its twenty-fourth session the proposed amendments which are still in square brackets and to report its conclusions to the ADN Administrative Committee which will be invited to endorse all amendments.

Chapter 1.1

1.1.3.1 In the Note, replace "see 1.7.1.4" by "see also 1.7.1.4".

(B)(Reference document: ECE/TRANS/WP.15/217, Annex I)

1.1.3.1 (c) In the first sentence, after "per packaging", insert ", including intermediate bulk containers (IBCs) and large packagings,".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

[1.1.3.3 Modify to read as follows:

"1.1.3.3 Exemptions related to dangerous goods used for the propulsion of vessels, vehicles or wagons carried, for the operation of their special equipment, for their upkeep and for their safety

The requirements of ADN do not apply to dangerous goods used:

- For the propulsion of vessels, vehicles or wagons carried;
- For the operation or upkeep of their special equipment, which is used during carriage or is intended for use during carriage; or
- To ensure safety;

which are carried on board in the packaging, receptacle or tanks intended for use for this purpose."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2012/1)]

1.1.3.4 In the Note, replace "see 1.7.1.4" by "see also 1.7.1.4".

(B)(Reference document: ECE/TRANS/WP.15/217, Annex I)

1.1.4.2.1 In the first sentence, replace "and tank-containers" by ", tank-containers and MEGCs". In the first sentence of paragraph (c), replace "or tank-containers" by ", tank-containers or MEGCs". In the second sentence of paragraph (c), replace "and tank-containers" by ", tank-containers and MEGCs".

1.1.5 Add the following sentence: "The requirements of the standard that do not conflict with ADN shall be applied as specified, including the requirements of any other standard, or part of a standard, referenced within that standard as normative."

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 1.2

1.2.1 In the definitions of *Auto-ignition temperature*, *Deflagration*, *Detonation*, *Explosion*, and *Explosive atmosphere*, replace "EN 1127-1:1997, No. 331" by "EN 13237:2011".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

[1.2.1 In the definition of *Breathing apparatus (ambient air-dependent filter apparatus)* replace "EN 371:1992 or EN 372:1992" by "EN 14387:2004 + A1:2008".]

[(C)](Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

[1.2.1 In the definition of *Breathing apparatus (self-contained)*, replace "EN 137:1993" by "EN 137:2006".]

[(C)](Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.2.1 In the definition of *Bulk container* add the following new Note at the end:

NOTE: *This definition only applies to bulk containers meeting the requirements of Chapter 6.11 of ADR.*”

(B) + (C)(Reference document: ECE/TRANS/WP.15/219, Annex I)

1.2.1 Replace the definition of "Cargo tank (condition)" by the following definitions:

"Cargo tank (discharged) means a cargo tank which after unloading may contain some residual cargo.

Cargo tank (empty) means a cargo tank which after unloading contains no residual cargo but may not be gas free.

Cargo tank (gas free) means a cargo tank which after unloading does not contain any residual cargo or any measurable concentration of dangerous gases."

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2012/10)

1.2.1 Amend the definition of "Closed-type sampling device" to read as follows:

"Closed-type sampling device means a device penetrating through the boundary of the cargo tank or through the piping for loading and unloading but constituting a part of a closed system designed so that during sampling no gas or liquid may escape from the cargo tank. The device shall be of a type approved by the competent authority for this purpose;"

(B)(Reference documents: Informal documents INF.8 and INF.34)

[The amendment to the definition of *Closure* in the French version does not apply to the English text.]

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.2.1 Amend the Note in the definition of "Combination packaging" to read as follows:

NOTE: *The term "inner packaging" used for combination packagings shall not be confused with the term "inner receptacle" used for composite packagings.*"

1.2.1 Amend the definition of "*Composite packaging (plastics material)*" and the related NOTE to read as follows:

"Composite packaging" means a packaging consisting of an outer packaging and an inner receptacle so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains thereafter an integrated single unit; it is filled, stored, carried and emptied as such;

NOTE: *The term "inner receptacle" used for composite packagings shall not be confused with the term "inner packaging" used for combination packagings. For example, the inner of a 6HA1 composite packaging (plastics material) is such an inner receptacle since it is normally not designed to perform a containment function without its outer packaging and is not therefore an inner packaging.*

Where a material is mentioned in brackets after the term "composite packaging", it refers to the inner receptacle."

1.2.1 Delete the definition of "*Composite packaging (glass, porcelain or stoneware)*" and related NOTE.

(B)(Reference document: ECE/TRANS/WP.15/217, Annex I)

1.2.1 In the definition of *Electrical apparatus protected against water jets* replace "IEC publication 529" by "IEC publication 60529".

[1.2.1 In the definition of *Escape device (suitable)* replace "EN 400:1993, EN 401:1993, EN 402:1993, EN 403:1993 or EN 1146:1997" by "EN 13794:2002, EN 402:2003, EN 403:2004 or EN 1146:2005".]

[(C)](Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.2.1 Amend the definition of *Explosion group* to read as follows:

"*Explosion group* means a grouping of flammable gases and vapours according to their maximum experimental safe gaps (standard gap width, determined in accordance with specified conditions) and minimum ignition currents, and of electrical apparatus intended to be used in a potentially explosive atmosphere (see EN IEC 60079-0:2012)."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

1.2.1 In the definition of *Flame arrester*: Replace "EN 12 874 (1999)" by "EN ISO 16852:2010".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.2.1 Amend the definition of *High-velocity vent valve* to read as follows:

"*High-velocity vent valve* means a pressure relief valve designed to have nominal flow velocities which exceed the flame velocity of the flammable mixture, thus preventing flame transmission. This type of installation shall be tested in accordance with standard EN ISO 16852:2010."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

1.2.1 Replace the definition of "Hold (condition)" by the following definitions:

"*Hold (discharged)* means a hold which after unloading may contain some dry cargo remains.

"*Hold (empty)* means a hold which after unloading contains no dry cargo remains (swept clean)."

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2012/10)

~~[1.2.1 In the definition of *Nominal capacity of the receptacle*, delete "means the nominal volume of the dangerous substance contained in the receptacle expressed in litres".]~~

~~(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)~~

1.2.1 In the definition of "*Packaging*", replace "'Composite packaging (plastics material)", "Composite packaging (glass, porcelain or stoneware)'" by "'Composite packaging'".

(B)(Reference document: ECE/TRANS/WP.15/217, Annex I)

1.2.1 Amend the definition of "Partly closed sampling device" to read as follows:

"*Partly closed-type sampling device* means a device penetrating through the boundary of the cargo tank or through the piping for loading and unloading such that during sampling only a small quantity of gaseous or liquid cargo can escape into the open air. As long as the device is not used it shall be closed completely. The device shall be of a type approved by the competent authority for this purpose;"

(B)(Reference documents: Informal documents INF.8 and INF.34)

1.2.1 Replace the definition of "Possibility of a sampling connection" by the following definition:

"Connection for a sampling device means a connection allowing the installation of a closed-type or partly closed-type sampling device. The connection shall be fitted with a lockable mechanism resistant to the internal pressure of the cargo tank. The connection shall be of a type approved by the competent authority for the intended use;"

(B)(Reference documents: *Informal documents INF.8 and INF.34*)

1.2.1 In the definition of *Protective gloves*: Replace "EN 374-1:1994, 374-2:1994 or 374-3:1994" by "EN 374-1:2003, EN 374-2:2003 or EN 374-3:2003 + AC:2006".

1.2.1 In the definition of *Protective shoes*: Replace "EN 346:1997" by "EN ISO 20346:2004".

1.2.1 In the definition of *Protective suit*: Replace "EN 340:1993" by "EN 340:2003".

1.2.1 In the definition of *Steady burning*: Replace "EN 12 874:1999" by "EN ISO 16852:2010".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.2.1 In the definition of *Temperature class* replace "EC publication 79 and EN 50 014:1994" by "EN 13237:2011".

[1.2.1 Modify the definition of *Types of protection* to read as follows:

"Types of protection:

EEx (d): flameproof enclosure EN IEC 60079-1:2007;

EEx (e): increased safety EN IEC 60079-7:2007

EEx (ia) and EEx (ib): intrinsic safety EN 60079-11:2012;

EEx (m): encapsulation (EN 60079-18:2009);

EEx (p): pressurized apparatus EN 60079-2:2007;

EEx (q): powder filling EN 60079-5:2007;

(see IEC 60079-0:2012)."]

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

1.2.1, definition of "Type of vessel", captions to the sketches

Replace "Condition of cargo tank" by "Cargo tank design" (11 times)

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2012/10)

1.2.1 Insert the following new definitions:

"Boil-off means the vapour produced above the surface of a boiling cargo due to evaporation. It is caused by heat ingress or a drop in pressure."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

"Escape boat means a specially equipped onsite boat designed to withstand all identified hazards of the cargo and to evacuate the people in danger."

"Escape route means a safe route from danger towards safety or to another means of evacuation."

"*Evacuation boat* means a specially equipped and manned boat called in for rescuing people in danger or evacuating them within the minimum safe period of time provided by a safe haven or a safe area.

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

"*GESAMP* means the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. IMO publication: "The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships", GESAMP Reports and Studies No. 64, IMO, London, 2002. The relative density, the vapour pressure and the water solubility according to the GESAMP model are to be indicated for 20°C. According to this regulation, the allocation to substances floating on the surface of the water (floaters) and to substances sinking to the bottom of the water (sinker) should be based on a limit of 1,000 (resulting from the water density in inland waterways of 1000 kg/m³).

(A)(Reference documents: ECE/TRANS/WP.15/AC.2/44, annex II)

"*Holding time* means the time that will elapse from the establishment of the initial filling condition until the pressure has risen due to heat influx to the lowest set pressure of the safety valves."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

"*Life boat (i.e. ship's boat)* means an onboard boat in transport, rescue, salvage and work duties."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

"*Liquefied natural gas (LNG)* means natural gas (with a high content of methane, CH₄) that has liquefied under refrigeration."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

"*Means of evacuation* means any means that can be used by people to move from danger to safety as follows:

Dangers that have to be taken into account are:

- For class 3, packing group III, UN 1202, second and third entry and for classes 4.1, 8 and 9 on tank vessels: leakage at the manifold;
- For other substances of class 3 and class 2 and for flammable substances of class 8 on tank vessels: fire in the area of the manifold on the deck and burning liquid on the water;
- For class 5.1 on tank vessels: oxidizing substances in combination with flammable liquids may cause an explosion;
- For class 6.1 on tank vessels: toxic gases around the manifold and in the direction of the wind;
- For dangerous goods on dry cargo vessels: dangers emanating from the goods in the cargo holds."

"*Safe area* means a designated, recognisable area outside the cargo area which can be readily accessed by all persons on board. The safe area provides protection against the identified hazards of the cargo by a water screen for at least 60 minutes. The safe area can

be evacuated during an incident. A safe area is not acceptable when the identified danger is fire or explosion."

"*Safe haven* means a designated, recognisable, readily accessible module (fixed or floating) capable of protecting all persons on board against the identified hazards of the cargo for at least sixty minutes during which communication to the emergency and rescue services is possible. A safe haven can be integrated into the wheelhouse or into the accommodation. A safe haven can be evacuated during an incident. A safe haven on board is not acceptable when the identified danger is fire or explosion. A safe haven on board and a floating safe haven outside the ship are certified by a recognized classification society. A safe haven on land is constructed according to local law."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

"*Water film* means a deluge of water for protection against brittle fracture."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

"*Water screen* means a vertical water barrier, which extends over a height of at least 3 meters above the deck and the full width of the vessel with an overshoot of at least 1.5 meters sideways of the hull. The water screen shall protect against the identified hazards of the cargo. The water screen shall be capable of being put into operation from the wheelhouse and from the safe area."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

Chapter 1.4

1.4.2.2.1 (d) Amend to read as follows:

"ascertain that a second means of evacuation in the event of an emergency from the vessel side is available, when the landside installation is not equipped with a second necessary means of evacuation."

1.4.2.3.1 (d) Replace by "(Deleted)".

1.4.3.1.1 (f) Amend to read as follows:

"He shall ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

1.4.3.3 (q) Amend to read as follows:

"He shall ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

1.4.3.3 Replace "(v) (*Reserved*)" by the following text:

"(v) when special provision 803 applies, shall guarantee and document that the maximum permissible temperature of the cargo is not exceeded and shall provide instructions to the master."

(B)(Reference document: Informal document INF.17, 22nd session)

1.4.3.3 (x) Amend to read as follows:

"He shall ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

Consequential amendment:

1.4.3.7.1 Insert a new (g) to read as follows:

"(g) Ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

The existing (g) becomes (h).

1.4.3.7.1 Delete existing (h) and (n) and reorder accordingly.

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/20, as amended)

Chapter 1.6

~~1.6.1 Add the following new transitional provision:~~

~~"1.6.1.28 Notwithstanding the provisions of 1.6.1.1, application of EN ISO/IEC 17020:2004 for the purposes of 1.15.3.8 and 1.16.4.1 shall not be recognized after 28 February 2015."~~

~~(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)~~

1.6.7.1.2 (b) Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2012/10)

1.6.7.2.2.2 In the table, item 1.2.1, replace "EN 12 874:1999" by "EN ISO 16852:2010" (twice).

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

1.6.7.2.2.2 Delete the provisions relating to 7.2.3.20 "Use of cofferdams for ballasting".

1.6.7.2.2.2 Modify the provisions relating to 7.2.3.20.1 to read as follows:

"7.2.3.20.1 sentence 1	Ballast water Prohibition against filling cofferdams with water	N.R.M. Renewal of the certificate of approval after 31 December 2038 Until then, the following requirements apply on board vessels in service: Cofferdams may be filled with water during unloading to provide trim and to permit residue-free drainage if possible. When the vessel is underway, cofferdams may be filled with ballast water only when cargo tanks are empty.
7.2.3.20.1 sentence 2	Proof of stability in the event of a leak connected with ballast water	N.R.M. Renewal of the certificate of approval after 31 December 2044 for Type G and Type N vessels
7.2.3.20.1 sentence 4	Fitting of ballast tanks and compartments with level indicators	N.R.M. Renewal of the certificate of approval after 31 December 2012 for Type C and G tank vessels and Type N double hull tank vessels"

[1.6.7.2.2.2 Modify the provisions relating to 9.3.1.13 to read as follows:

"9.3.1.13.1	Stability (general)	For proof of stability in damaged condition:
9.3.3.13.1		N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.13.2		
9.3.3.13.2		For proof of intact stability: N.R.M. Renewal of the certificate of approval after 31 December 2017

1.6.7.2.2.2 Delete the provisions relating to 9.3.3.13.3 "Stability (general)".]

1.6.7.2.2.4 Delete and replace by "(Deleted)".

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/15, as amended)

1.6.7.4.2, heading of column (7) in the tables Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2012/10)

1.6.7.4.2 In Table 3., for UN No. 1202, second entry, in column (2), replace "EN 590:2004" by "EN 590:2009 + A1:2010".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 1.8

1.8.1.2.1 Modify to read as follows:

"In order to carry out the checks provided for in Article 4, paragraph 3 of ADN, the Contracting Parties shall use the checklist developed by the Administrative Committee.* A copy of this checklist shall be given to the master of the vessel. Competent authorities of other Contracting Parties may decide to simplify or refrain from conducting subsequent checks if a copy of the checklist is presented to them. This paragraph shall not prejudice the right of Contracting Parties to carry out specific measures or more detailed checks.

**Note by the secretariat: The model of the checklist can be found on the United Nations Economic Commission for Europe website (<http://www.unece.org/trans/danger/danger.html>)."*

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/13, as amended)

Chapter 1.15

1.15.3.8 Replace "EN 29001:1997" by "EN ISO 9001:2008 + AC:2009" and "EN ISO/IEC 17020:2004" by "EN ISO/IEC 17020:2012 (except clause 8.1.3)".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 1.16

1.16 Add the following paragraphs:

"1.16.1.4 *Annex to the certificate of approval*

1.16.1.4.1 The certificate of approval and the provisional certificate of approval in accordance with 1.16.1.3.1 (a) shall be complemented by an annex in accordance with the model under 8.6.1.5.

1.16.1.4.2 The annex to the certificate of approval shall include the date from which the transitional provisions according to 1.6.7 may be applied. This date shall be:

(a) for vessels according to Article 8, paragraph 2 of ADN for which evidence can be provided that they were already approved for the carriage of dangerous goods on the territory of a Contracting Party before 26 May 2000, 26 May 2000;

(b) for vessels according to Article 8, paragraph 2 of ADN for which evidence cannot be provided that they were already approved for the carriage of dangerous goods on the territory of a Contracting Party before 26 May 2000, the proven date of the first inspection for the issue of an approval for the carriage of dangerous goods on the territory of a Contracting Party, or, if this date is not known, the date of issue of the first proven approval for the carriage of dangerous goods on the territory of a Contracting Party;

(c) for all other vessels, the proven date of the first inspection for the issue of a certificate of approval in accordance with ADN or, if this date is not known, the date of issue of the first certificate of approval in accordance with ADN;

[(d) in derogation to (a) to (c) above, the date of a renewed first inspection according to 1.16.8 if the validity of the certificate of approval expired more than six months previously.]

1.16.1.4.3 All approvals for the carriage of dangerous goods issued on the territory of a Contracting Party, which are valid as from the date under 1.16.1.4.2, and all certificates of approval issued in accordance with ADN shall be entered in the annex to the certificate of approval. Previously issued certificates shall be entered by the competent authority that issues the annex to the certificate of approval.

1.16.2.5 The annex to the certificate of approval shall be issued by the competent authority of a Contracting Party. The Contracting Parties shall cooperate with each other in the issuing of annexes to the certificate of approval. They shall recognise this annex to the certificate of approval. Each additional certificate of approval or provisional certificate of approval issued shall be entered in the annex to the certificate of approval. Should the annex to the certificate of approval be replaced (e.g. in case of damage or loss), all existing entries shall be transferred.

[1.16.2.6 The annex to the certificate of approval shall be returned to the competent authority and a new annex to the certificate of approval shall be issued if according to 1.16.8 a renewed first inspection takes place, as the validity of the certificate of approval expired more than six months previously. In this case, only such certificates of approval, which have been issued after the renewed first inspection, shall be recorded.]"

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/2)

1.16.4.1 Replace "EN ISO/IEC 17020:2004" by "EN ISO/IEC 17020:2012 (except clause 8.1.3)".

Chapter 2.1

~~[2.1.3.10 — Delete the last column of the Table.]~~

~~(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)~~

Chapter 2.2

Insert the following paragraphs:

"2.2.9.1.10.4 (Reserved)

"2.2.9.1.10.5 For carriage in tank vessels, substances, solutions and mixtures are considered as substances, solutions and mixtures floating on the surface of the water (floaters) if they meet the following criteria:*

Water solubility < 0.1%

Vapour pressure < 0.3 kPa
Relative density < 1,000.

For carriage in tank vessels, substances, solutions and mixtures are considered as substances, solutions and mixtures sinking to the bottom of the water (sinkers) if they meet the following criteria:*

Water solubility < 0.1%
Relative density \geq 1,000.

*The relative density, the vapour pressure and the water solubility according to the GESAMP model are to be indicated for 20 °C."

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, Annex II)

Chapter 3.2

3.2.1, Table A For UN No. 1202, second entry, in column (2), replace "EN 590:2004" by "EN 590:2009 + A1:2010".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 3.2, Table A, UN No. 1361, CARBON, animal or vegetable origin, packing group III, column (6)

Insert a reference to special provision "803".

(B)(Reference document: Informal document INF.17, 22nd session)

3.2.1, Table A, for UN No. 1972, column (8) Insert "T".

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

3.2.1, Table A For UN numbers 3256, 3257 and 3258, delete special provision 580 in column (6).

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

3.2.3.1, Explanations concerning Table C, column (7) Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/10)

3.2.3.1, Explanations concerning Table C, column (13) Amend to read as follows:

“Type of sampling device”

Contains information concerning the prescribed type of sampling device.

1 Closed-type sampling device

2 Partly closed-type sampling device

3 Sampling opening"

(B)(Reference documents: Informal documents INF.8 and INF.34)

3.2.3.1 Explanatory notes for column (20)

In the first sentence of explanatory note 14, replace "under these conditions" by "in a type N vessel"

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

3.2.3.1, explanatory note for column (20), 40 Delete and replace by "(Deleted)".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/23)

3.2.3.1, explanatory notes for column (20) Insert the following new note at the end:

"41. n-BUTYLBENZENE is assigned to the entry UN 2709 BUTYLBENZENES (n-BUTYLBENZENE)."

(A)(Reference documents: ECE/TRANS/WP.15/AC.2/44, annex II)

3.2.3.1, explanatory notes for column (20) Insert the following new note at the end:

"42. Loading of refrigerated liquefied gases shall be carried out in such a manner as to ensure that unsatisfactory temperature gradients do not occur in any cargo tank, piping or other ancillary equipment. When determining the holding time (as described in 7.2.4.16.17), it shall be assured that the degree of filling does not exceed 98% in order to prevent the safety valves from opening when the tank is in liquid full condition. When refrigerated liquefied gases are carried using a system according to 9.3.1.24.1 (b) or 9.3.1.24.1 (c), a refrigeration system is not required."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

3.2.3.2, Table C, heading of column (7) Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/10)

3.2.3 Table C

For UN No. 1206, in column (2), delete "(n-HEPTANE)".

For UN No. 1208, in column (2), delete "(n-HEXANE)" and in column (9), delete "3".

For UN No. 1262, in column (2), delete "(n-OCTANE)".

For UN No. 2709, in column (20), insert "41".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

3.2.3.2, Table C, UN No. 3082, HEAVY HEATING OIL Delete "40" in column (20)

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/23)

3.2.3.2, Table C, Insert the following new entries:

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1265	PENTANES, liquid	3	F1	I	3+N2	*	*	*	*	*	*	*	*	yes	*	II A	yes	PP, EX, A	1	14; * see 3.2.3.3
1265	PENTANES, liquid	3	F1	II	3+N2	*	*	*	*	*	*	*	*	yes	*	II A	yes	PP, EX, A	1	14; * see 3.2.3.3
1972	METHANE, REFRIGERATED LIQUID or NATURAL GAS, REFRIGERATED LIQUIFIED, with high methane content	2	3F		2.1	G	1	1	1		95		1	no	T1	IIA	yes	PP, EX, A	1	2, 31, 42
2709	BUTYLBENZENES (n-BUTYLBENZENE)	3	F1	III	3+N1+F	N	3	3			97	0.87	2	yes	T2	II A	yes	PP, EX, A	0	

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended and ECE/TRANS/WP.15/AC.2/44, annex II)

Replace the entries for UN Nos. 1764, 2430 (twice) and 2850 by the following entries:

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1764	DICHLOROACETIC ACID	8	C3	II	8+N1	N	3	3			97	1.56	2	yes	T1	II A	yes	PP, EP, EX, A	0	17
2430	ALKYLPHENOLS, SOLID, N.O.S. (NONYLPHENOL, ISOMERIC MIXTURE, MOLTEN)	8	C4	II	8+N1+F	N	3	1	2		95	0.95	2	yes	T2	II A ⁷⁾	yes	PP, EP, EX, A	0	7; 17
2430	ALKYLPHENOLS, SOLID, N.O.S. (NONYLPHENOL, ISOMERIC MIXTURE, MOLTEN)	8	C4	II	8+N1+F	N	3	2	4		95	0.95	2	yes			no	PP, EP	0	7; 17; 20: +125 °C
2850	PROPYLENE TETRAMER	3	F1	III	3+N1+F	N	4	3			97	0.76	2	yes			no	PP	0	

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

3.2.3.2 In footnotes 1, 2, 3, 4, 5 and 7 related to the list of substances in Table C replace "IEC 79-4" by "a standardized determination procedure".

[3.2.3.2 In footnote 8, replace "IEC 79-4" by "a standardized determination procedure" and "EN 50014" by "EN 60079-0:2012".]

3.2.3.3 In the third and fifth boxes of the flowchart, replace "(criteria according to GESAMP) *" by "(criteria according to 2.2.9.1.10.5)" and delete footnote *

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

[3.2.3.3, column (16) Replace "IEC 60079-1-1" by "IEC 60079-20-1".]

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

3.2.3.3, column (20), remark 40 Delete and replace by "(Deleted)".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/23)

[3.2.4.2, item 3.1 Modify to read as follows: "Auto-ignition temperature in accordance with IEC 60079-20-1, EN 14522, DIN 51 794; where applicable, indicate the temperature class in accordance with IEC 60079-20-1".]

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/18)

3.2.4.2, item 3.2 Modify to read as follows:

"Flash-point

For flash-points up to 175 ° C

Closed-cup test methods – non-equilibrium procedure

Abel method: EN ISO 13736:2008

Abel-Pensky method: DIN 51755–1:1974 or NF M T60-103:1968

Pensky-Martens method: EN ISO 2719:2012

Luchaire apparatus: French standard NF T60-103:1968

Tag method: ASTM D56-05(2010)

Closed-cup test methods – equilibrium procedure

Rapid equilibrium procedure: EN ISO 3679:2004; ASTM D3278-96(2011)

Closed-cup equilibrium procedure: EN ISO 1523:2002+AC1:2006; ASTM D3941-90 (2007)

For flash-points above 175 ° C

In addition to the above-mentioned methods, the following open-cup test method may be applied:

Cleveland method: EN ISO 2592:2002; ASTM D92-12."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/18)

3.2.4.2, item 3.3 Replace "EN 1839:2004" by "EN 1839:2012".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

3.2.4.2, item 3.4 Replace "IEC 60079-1:2003....." by "IEC 60079-20-1:2010 in mm."

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/18)

3.2.4.3 Criteria for assignment of substances, A, 10

Replace "(criteria according to GESAMP), ³" by "(criteria according to 2.2.9.1.10.5)" and delete footnote ³

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

[3.2.4.3, column (16) Replace "IEC 60079-1-1" by "IEC 60079-20-1".]

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/18)

3.2.4.3, column (20), remark 40 Delete and replace by "(Deleted)".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/23)

Chapter 3.3

[Chapter 3.3 Delete special provision 580 and read:

"580 (Deleted)."]

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 3.3, special provisions Add a new special provision to read as follows:

"803 Hard coal, coke and anthracite, when carried in bulk, are not subject to the provisions of ADN if:

- (a) The temperature of the cargo is not higher than 60°C before, during or immediately after loading of the hold;
- (b) The estimated duration of carriage is not more than 20 days;
- (c) If the actual duration of carriage is more than 20 days, supervision of the temperature is carried out from the twenty-first day; and
- (d) If the master is given, at the time of loading and in a traceable form, instructions on how to proceed if there is a significant heating of the cargo."

(B)(Reference document: Informal document INF.17)

Chapter 5.1

5.1.2.1 Amend paragraph (b) to read as follows:

"(b) Orientation arrows illustrated in 5.2.1.9 shall be displayed on two opposite sides of overpacks containing packages which shall be marked in accordance with 5.2.1.9.1, unless the marking remains visible."

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

Chapter 5.3

5.3.2.2.1 Amend the second paragraph to read as follows:

"If the size and construction of the vehicle are such that the available surface area is insufficient to affix these orange-coloured plates, their dimensions may be reduced to a minimum of 300 mm for the base, 120 mm for the height and 10 mm for the black border. In this case, a different set of dimensions within the specified range may be used for the two orange-coloured plates specified in 5.3.2.1.1.

When reduced dimensions of orange-coloured plates are used for a packaged radioactive material carried under exclusive use, only the UN number is required and the size of the digits stipulated in 5.3.2.2.2 may be reduced to 65 mm in height and 10 mm in stroke thickness."

~~(C)(Reference document: ECE/TRANS/WP.15/219, Annex I)~~

Chapter 5.5

~~5.5.3.1 — Add the following paragraph:~~

~~"5.5.3.1.4 — Sub sections 5.5.3.6 and 5.5.3.7 only apply when there is an actual risk of asphyxiation in the wagon/vehicle or large container. It is for the participants concerned to assess this risk, taking into consideration the hazards presented by the substances being used for cooling or conditioning, the amount of substance to be carried, the duration of the journey and the types of containment to be used. As a rule, it is assumed that packages containing dry ice (UN 1845) as a coolant do not present such a risk."~~

~~(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)~~

~~[5.3.3 Replace "for which a mark for elevated temperature substances is required according to special provision 580 in Column (6) of Table A of Chapter 3.2" with "containing a substance that is carried or handed over for carriage in a liquid state at or above 100 °C or in a solid state at or above 240 °C".]~~

~~(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)~~

Chapter 7.1

~~7.1.4.77 Replace by the following text and table:~~

~~"Based on local circumstances, competent authorities may prescribe additional requirements for the availability of means of evacuation."~~

7.1.4.77 Possible means of evacuation in case of an emergency

		Dry cargo bulk (vessel and barge)		Container (vessel and barge) and packaged goods
		Class		Class
		4.1, 4.2, 4.3	5.1, 6.1, 7, 8, 9	All classes
1	Two escape routes inside or outside the cargo area in opposite directions	•	•	•
2	One escape route outside the cargo area and one safe haven outside the vessel including the escape route towards it at the opposite end	•	•	•
3	One escape route outside the cargo area and one safe haven on the vessel at the opposite end		•	•
4	One escape route outside the cargo area and one life boat at the opposite end	•	•	•
5	One escape route outside the cargo area and one escape boat at the opposite end	•	•	•
6	One escape route inside the cargo area and one escape route outside the cargo area at the opposite end	•	•	•
7	One escape route inside the cargo area and one safe haven outside the vessel in the opposite direction	•	•	•
8	One escape route inside the cargo area and one safe haven on the vessel in the opposite direction		•	•
9	One escape route inside the cargo area and one life boat at the opposite end	•	•	•
10	One escape route inside the cargo area and one escape boat at the opposite end	•	•	•
11	One escape route inside or outside the cargo area and two safe havens on the vessel at opposite ends		•	•
12	One escape route inside or outside the cargo area and two safe areas on the vessel at opposite ends		•	•
13	One escape route outside the cargo area	•	•	•
14	One escape route inside the cargo area	•	•	•
15	One or more safe havens outside the vessel, including the escape route towards it	•	•	•
16	One or more safe havens on the vessel		•	•
17	One or more escape boats	•	•	•
18	One escape boat and one evacuation boat	•	•	•
19	One or more evacuation boats		•	•

• = Possible option.

7.1.4.78-7.1.4.99 (Reserved)²⁾

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

Consequential amendment:

7.1.6.1.14, HA03, last paragraph Delete "local".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/11)

Chapter 7.2

7.2.4.10.1 Modify to read as follows:

“Loading or unloading shall start only once a checklist conforming with section 8.6.3 of ADN has been completed for the cargo in question and questions 1 to 19 of the list have been checked off with an “X”. Irrelevant questions should be deleted. The list shall be completed, after the pipes intended for the handling are connected and prior to the handling, in duplicate and signed by the master or a person mandated by himself and the person responsible for the handling at the shore facilities. If a positive response to all the questions is not possible loading or unloading is only permitted with the prior consent of the competent authority.”

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/11)

7.2.4.16.9 Modify to read as follows:

"For cargoes that should be transported in an open type N vessel with a flame arrester:

(a) During loading or unloading in a closed tank vessel of substances for which an open type N vessel with a flame arrester is sufficient according to columns (6) and (7) of Table C of Chapter 3.2, the cargo tanks may be opened using the safe pressure-relief device referred to in 9.3.2.22.4 (a) or 9.3.3.22.4 (a).

For cargoes that may be transported on open type N vessels:

(b) During loading or unloading in a closed tank vessel of substances for which an open type N vessel is sufficient according to columns (6) and (7) of Table C of Chapter 3.2, the cargo tanks may be opened using the safe pressure-relief device referred to in 9.3.2.22.4 (a) or 9.3.3.22.4 (a) or using another suitable opening in the vapour pipe if any accumulation of water and its penetration into the cargo tanks is prevented and the opening is appropriately closed again after loading or unloading.”

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/22 as amended)

7.2.4.16.11 Replace "nozzle" by "connection".

(B)(Reference documents: *Informal documents INF.8 and INF.34*)

7.2.4.16 Insert the following text at the end:

“7.2.4.16.16 Measures to be taken before loading refrigerated liquefied gases

Unless the temperature of the cargo is controlled in accordance with 9.3.1.24.1 (a) or 9.3.1.24.1 (c) guaranteeing the use of the maximal boil-off in any service conditions, the holding time has to be determined by the master or another person on his behalf before loading and validated by the master or another person on his behalf during loading and shall be documented on board.

7.2.4.16.17 Determination of the holding time

A table, approved by the classification society that certified the vessel, giving the relation between holding time and filling conditions, incorporating the parameters below shall be kept on board.

The holding time of the cargo shall be determined on the basis of the following parameters:

- The heat transmission coefficient as defined in 9.3.1.27.9;

- The set pressure of the safety valves;
- The initial filling conditions (temperature of cargo during loading and degree of filling);
- The ambient temperatures as given in 9.3.1.24.2.
- When using the boil-off vapours, the minimum guaranteed use of the boil-off vapours (that is the amount of boil-off vapours used under any service conditions), may be taken into account.

Adequate safety margin

To leave an adequate margin to ensure safety, the holding time is at least three times the expected duration of the journey of the vessel, including the following:

- To ensure safety for short journeys of (as expected) no more than 5 days, the minimum holding time for any vessel with refrigerated liquefied gases is 15 days.
- For long journeys of (as expected) more than 10 days, the minimum holding time shall be 30 days, adding two days for each day the journeys takes more than 10 days.

As soon as it becomes clear that the cargo will not be unloaded within the holding time, the master shall inform the nearest emergency services according to 1.4.1.2.”

7.2.4.29 Replace by the following text:

“7.2.4.29 Transport of refrigerated liquefied gases

During loading or unloading the drip tray as mentioned in 9.3.1.21.11 shall be placed under the shore connection of the piping for loading and unloading in use, and a water film as mentioned in 9.3.1.21.11 shall be activated.

7.2.4.30-7.2.4.39 (*Reserved*)”.

(C)(*Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended*)

7.2.4.77 Replace by the following text and table:

"Based on local circumstances, competent authorities may prescribe additional requirements for the availability of means of evacuation.

7.2.4.77 Possible means of evacuation in case of an emergency

		<i>Tank vessel/tank barge</i>						
		<i>Class</i>						
		<i>2, 3 packing group I, II and rest of III</i>	<i>3 packing group III (UN No. 1202 two entries: second and third), 4.1</i>	<i>5.1, 6.1</i>	<i>8</i>	<i>9</i>		
1	Two escape routes inside or outside the cargo area in opposite directions	•	•	•	•	•	•	
2	One escape route outside the cargo area and one safe haven outside the vessel including the escape route towards it from the opposite end	•	•	•	•	•	•	
3	One escape route outside the cargo area and one safe haven on the vessel at the opposite end		•	•**	•	•	•	
4	One escape route outside the cargo area and one life boat at the opposite end		•			•	•	
5	One escape route outside the cargo area and one escape boat at the opposite end	•	•	•	•	•	•	
6	One escape route inside the cargo area and one escape route outside the cargo area at the opposite end	•	•	•	•	•	•	
7	One escape route inside the cargo area and one safe haven outside the vessel in the opposite direction	•	•	•	•	•	•	
8	One escape route inside the cargo area and one safe haven on the vessel in the opposite direction		•	•**	•	•	•	
9	One escape route inside the cargo area and one life boat at the opposite end		•			•	•	
10	One escape route inside the cargo area and one escape boat at the opposite end	•	•	•	•	•	•	
11	One escape route inside or outside the cargo area and two safe havens on the vessel at opposite ends		•	•**	•	•	•	
12	One escape route inside or outside the cargo area and two safe areas on the vessel at opposite ends		•	•**	•	•	•	
13	One escape route outside the cargo area		•			•*	•	
14	One escape route inside the cargo area		•			•*	•	
15	One or more safe havens outside the vessel, including the escape route towards it	•	•	•	•*	•	•	

• = Possible option. * = Not accepted in case of classification codes TFC, CF or CFT."

**= Not accepted if there is a risk that oxidizing substances in combination with flammable liquids may cause an explosion.

7.2.4.78-7.2.4.99 (Reserved)"

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

Chapter 8.1

8.1.2.1 (j) Delete and replace with “(Deleted)”.

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/13)

"8.1.2.3 Insert at the end:

“(q) When transporting refrigerated liquefied gases and the temperature is not controlled in accordance with 9.3.1.24.1 (a) and 9.3.1.24.1 (c), the determination of the holding time (7.2.4.16.16, 7.2.4.16.17). The heat transmission coefficient shall be documented and kept on board.”

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 as amended by Informal document INF.20)

8.1.6.3 Amend to read as follows:

"8.1.6.3 The special equipment referred to in 8.1.5.1 and the gas detection system shall be checked and inspected in accordance with the instructions of the manufacturer by the manufacturer concerned or by persons authorized for this purpose by the competent authority. A certificate concerning this inspection shall be carried on board."

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/4)

Chapter 8.2

8.2.2.3.3.1, “Practice” Insert the following text:

“- Handling refrigerated liquefied gases”.

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 as amended by Informal document INF.20)

8.2.2.3.3 Does not apply to the English version

8.2.2.3.4 Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/10)

8.2.2.7.1.3 and 8.2.2.7.2.3 Delete the reference to footnote "1" after "catalogue of questions" and insert “and a directive on the use of the catalogue of questions¹” at the end of the first sentence.

8.2.2.7.1.3 and 8.2.2.7.2.3 Replace “additional guidance” by “the directive” in the existing footnote.

8.2.2.7.1.4 and 8.2.2.7.2.4 Replace “list of questions” by “directive on the use of the catalogue of questions”.

8.2.2.7.3.3 Insert “(outside the provisions of the directive on the use of the catalogue of questions for examining authorities and bodies)” at the end.

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/7)

Chapter 8.6

8.6.1.3 Does not apply to the English version

8.6.1.4 Does not apply to the English version

(B)(Reference document: ECE/TRANS/WP.15/AC.2/2013/10)

8.6.3, ADN Checklist, Question 4 Replace by the following text: "Have suitable means in accordance with 7.1.4.77 and 7.2.4.77 been provided for boarding or leaving, including in cases of emergency?"

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

Question 12.2 Insert at the end "(pressure at connecting point __ kPa)".

Questions 15.1 and 15.2 Insert at the end "(agreed pressure __ kPa)".

Question 17, first indent Delete "(only when loading the vessel)" and insert "□ when loading □ when unloading".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/19)

Add at the following new question and footnote at the end:

"19. When transporting refrigerated liquefied gases, has the holding time been determined according to 7.2.4.16.16, and is known and documented on board?*

* Only during loading operations."

(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

Explanation of question 4 Replace "(e.g. a lowered dinghy)" by "if required in accordance with 7.1.4.77 and 7.2.4.77."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/42, Annex II and ECE/TRANS/WP.15/AC.2/2013/28, as amended)

In the Explanations, insert "Question 17: To prevent backflow from the shore, it is also necessary to activate the overflow prevention device on the vessel under certain circumstances when unloading. It is obligatory during loading and optional during unloading. Delete this item if it is not necessary during loading."

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/19)

Chapter 9.1

9.1.0.40.1, second indent Does not apply to the English version

(B)(Reference document: Informal document INF.6)

9.1.0.95.1 (a), transverse extent

Insert the following text after "0.59 m": "inboard from the vessel's side at right angles to the centreline at the level corresponding to the maximum draught".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

Chapter 9.2

9.2.0.95.1 (a), transverse extent

Insert the following text after "0.59 m": "inboard from the vessel's side at right angles to the centreline at the level corresponding to the maximum draught".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

Chapter 9.3

9.3.1.11.2 (a), first indent, second paragraph Insert the following text after "refrigerated cargo tanks": "and cargo tanks used for the transport of refrigerated liquefied gases"

9.3.1.11.2 Insert the following text at the end:

“(e) Cargo tanks intended to contain products at a temperature below -10°C shall be suitably insulated to ensure that the temperature of the vessel’s structure does not fall below the minimum allowable material design temperature. The insulation material shall be resistant to flame spread.”

9.3.1.11 Insert the following text at the end:

“9.3.1.11.9 In case the vessel has insulated cargo tanks, the hold spaces shall only contain dry air to protect the insulation of the cargo tanks against moisture.”

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 as amended by Informal document INF.20)

9.3.1.15 (a), transverse extent

Replace "0.79 m, or when applicable, the distance allowed by section 9.3.4, reduced by 0.01 m" by "0.79 m inboard from the vessel’s side at right angles to the centreline at the level corresponding to the maximum draught".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

9.3.1.21.1 (g) Amend to read as follows:

"(g) a connection for a closed-type sampling device."

(B)(Reference documents: Informal documents INF.8 and INF.34)

9.3.1.21.5 (a) and (b), 9.3.2.21.5 (a) and (b) and 9.3.3.21.5 (a) and (d) Replace "EN 60309-2:1999" by "EN 60309-2:1999 + A1:2007 + A2:2012".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

9.3.1.21 Insert the following text at the end:

"9.3.1.21.11 On vessels certified to carry refrigerated liquefied gases the following protective measures shall be provided in the cargo area:

- Drips trays shall be installed under the shore connections of the piping for loading and unloading through which the loading and unloading operation is carried out. They must be made of materials which are able to resist the temperature of the cargo and be insulated from the deck. The drip trays shall have a sufficient volume and an overboard drain;
- A water spray system to cover:
 1. exposed cargo tank domes and exposed parts of cargo tanks;
 2. exposed on-deck storage vessels for flammable or toxic products;
 3. parts of the cargo deck area where a leakage may occur.

The capacity of the water spray system shall be such that when all spray nozzles are in operation, the outflow is of 300 liters per square meter of cargo deck area per hour. The system shall be capable of being put into operation from the wheelhouse and from the deck;

- A water film around the shore connection of the piping for loading and unloading in use to protect the deck and the shipside in the way of the shore connection of the piping for loading and unloading in use during connecting and disconnecting the loading arm or hose. The water film shall have sufficient capacity. The system shall be capable of being put into operation from the wheelhouse and from the deck.

9.3.1.21.12 Vessels carrying refrigerated liquefied gases shall have on board, for the purpose of preventing damage to the cargo tanks during loading and the piping for

loading and unloading during loading and unloading, a written instruction for pre-cooling. This instruction shall be applied before the vessel is put into operation and after long-term maintenance.”

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 as amended by Informal document INF.20)

9.3.1.24.1 Insert a new indent (c) to read as follows:

“(c) For UN No. 1972 only, and when the use of LNG as fuel is authorized according to 1.5.3.2, a system for the regulation of cargo tank pressure whereby the boil-off vapours are utilized as fuel;”.

The current (c) becomes (d).

9.3.1.25.2 Insert the following text at the end:

“For transport of refrigerated liquefied gases

(h) The piping for loading and unloading and cargo tanks shall be protected from excessive stresses due to thermal movement and from movements of the tank and hull structure.

(i) Where necessary, piping for loading and unloading shall be thermally insulated from the adjacent hull structure, to prevent the temperature of the hull falling below the design temperature of the hull material.”

(j) All piping for loading and unloading, which may be closed off at each end when containing liquid (residue), shall be provided with safety valves. These safety valves shall discharge into the cargo tanks and shall be protected against inadvertent closing.”

9.3.1.27.9 Replace by the following text:

“For all cargo systems, the heat transmission coefficient as used for the determination of the holding time (7.2.4.16.16 and 7.2.4.16.17) shall be determined by calculation. Upon completion of the vessel, the correctness of the calculation shall be checked by means of a heat balance test. The calculation and test shall be performed under supervision by the recognized classification society which classified the vessel.

The heat transmission coefficient shall be documented and kept on board. The heat transmission coefficient shall be verified at every renewal of the certificate of approval.”

9.3.1.52.3 (b) (iv) (2) Amend to read as follows:

"directly at the top edge of the sill of the entrance doors of the accommodation and service spaces when the cargo in the gas phase is heavier than air; otherwise sensors shall be fitted close to the ceiling.”

(C)(Reference documents: ECE/TRANS/WP.15/AC.2/2013/27 and Informal document INF.20 as amended)

9.3.2.15 (a), transverse extent

Replace "0.79 m, or when applicable, the distance allowed by section 9.3.4, reduced by 0.01 m" by "0.79 m inboard from the vessel's side at right angles to the centreline at the level corresponding to the maximum draught".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

9.3.2.21.1 (g) Amend to read as follows:

"(g) a connection for a closed-type or partly closed-type sampling device, and/or at least one sampling opening as required in column (13) of Table C of Chapter 3.2."

(B)(Reference documents: Informal documents INF.8 and INF.34)

9.3.2.21.5 (c) Replace "EN 12827:1996" by "EN 12827:1999".

(C)(Reference document: ECE/TRANS/WP.15/AC.1/130, Annex II)

9.3.2.22.5 (a) (iii) Replace "a flame arrester with a fixed plate stack" by "a flame arrester with a fixed or spring-loaded plate stack".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/12)

9.3.3.15.1 (a), transverse extent

Replace "0.59 m, or when applicable, the distance allowed by section 9.3.4, reduced by 0.01 m" by "0.59 m inboard from the vessel's side at right angles to the centreline at the level corresponding to the maximum draught".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)

9.3.3.21.1 (g) Amend to read as follows:

"(g) a connection for a closed-type or partly closed-type sampling device, and/or at least one sampling opening as required in column (13) of Table C of Chapter 3.2."

(B)(Reference documents: Informal documents INF.8 and INF.34)

9.3.3.21.9, third paragraph Replace "Screens" by "Flame arrester plate stacks".

(B)(Reference document: Informal document INF.7)

9.3.3.22.5 (a) (iii) Replace "a flame arrester with a fixed plate stack" by "a flame arrester with a fixed or spring-loaded plate stack".

(C)(Reference document: ECE/TRANS/WP.15/AC.2/2013/12)

9.3.4.1.1, first sentence

Replace "The maximum permissible capacity" by "The maximum permissible capacity and length".

(A)(Reference document: ECE/TRANS/WP.15/AC.2/44, annex II)
