Non-electrical equipment (see ISO 80079-36:2016 or at least equivalent);

EEx (fr): flow restricting enclosure (EN 13463-2:2005 or at least equivalent);

EEx (d): flameproof enclosure (EN 13463-3:2005 or at least equivalent);

EEx (c): constructional safety (ISO 80079-37:2016 or at least equivalent);

EEx (b): control of ignition source (EN 13463-6:2005 or at least equivalent);

EEx (k): liquid immersion: (EN 13463-8:2003 or at least equivalent);

Type of vessel

Type G: means a tank vessel intended for the carriage of pressurized or refrigerated gases.

Type C: means a tank vessel intended for the carriage of liquids. The vessel shall be of the flush-deck/double-hull type with double-hull spaces, double bottoms, but without trunk. The cargo tanks may be formed by the vessel's inner hull or may be installed in the hold spaces as independent tanks.

Type N: means a tank vessel intended for the carriage of liquids.

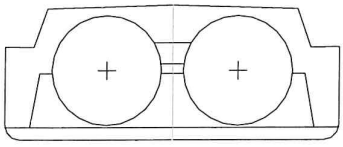
Closed Type N: a tank vessel intended for the carriage of liquids in closed cargo tanks.

Open type N: a tank vessel intended for the carriage of liquids in open cargo tanks.

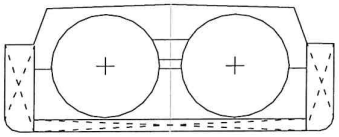
Open Type N: with flame arrester: a tank vessel intended for the carriage of liquids in open cargo tanks whose openings to the atmosphere are equipped with a flame arrester capable of withstanding steady burning.

Sketches (as example)

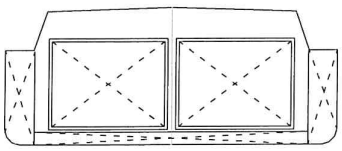
Type G:



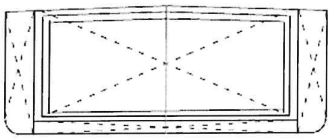
Type G Cargo tank design 1, Type of cargo tank 1 (also by flush-deck)



Type G Cargo tank design 1, Type of cargo tank 1 (also by flush-deck)

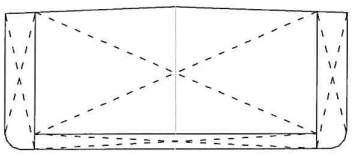


Type G Cargo tank design 2, Type of cargo tank 1 (also by flush-deck)

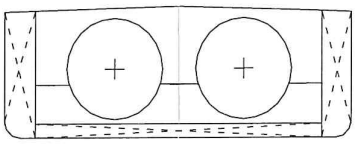


Type G Cargo tanks design 2, Type of cargo tank 4

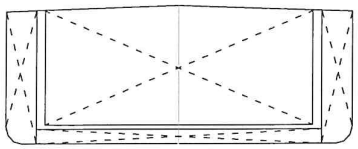
Type C:



Type C Cargo tank design 2,
Type of cargo tank 2

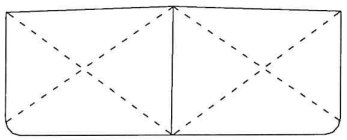


Type C Cargo tank design 1,
Type of cargo tank 1

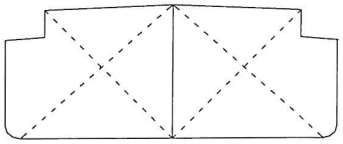


Type C Cargo tank design 2
Type of cargo tank 1

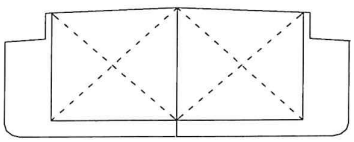
Type N:



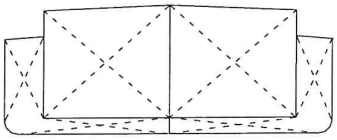
Type N Cargo tank design 2, 3 or 4
Type of cargo tank 2



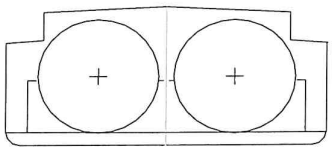
Type N Cargo tank design 2, 3 or 4
Type of cargo tank 2



Type N Cargo tank design 2, 3 or 4
Type of cargo tanks 1
(also by flush-deck)



Type N Cargo tank design 2, 3 or 4
Type of cargo tank 3
(also by flush-deck)



Type N Cargo tank design 2, 3 or 4
Type of cargo tank 1
(also by flush-deck)

U

Ullage opening means a closable opening of the residual cargo tanks with a diameter of maximum 0.10 m. The ullage opening shall be designed in such a way that it is possible to determine the degree of filling by the use of gauging rods;

Undertaking, see *Enterprise*;

Unloader means any enterprise which:

(a) Removes a container, bulk-container, MEGC, tank-container or portable tank from a conveyance; or

(b) Unloads packaged dangerous goods, small containers or portable tanks out of or from a conveyance or a container; or

(c) Discharges dangerous goods from a cargo tank, tank-vehicle, demountable tank, portable tank or tank-container; or from a battery-wagon, battery-vehicle, MEMU or MEGC; or from a conveyance for carriage in bulk, a large container or small container for carriage in bulk or a bulk container;

(d) Removes a vehicle or a wagon from a vessel;

Unloading means all actions carried out by the unloader, in accordance with the definition of unloader;

UN Model Regulations means the Model Regulations annexed to the twenty-third revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations (ST/SG/AC.10/1/Rev.23);

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

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

Upper explosion limit (UEL) means the highest concentration of the explosion range at which an explosion can occur;

V

Vacuum design pressure means the vacuum pressure on the basis of which the cargo tank or the residual cargo tank has been designed and built;

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

Vacuum valve means an automatically activated safety valve the purpose of which is to protect the cargo tank against unacceptable negative internal pressure. When the list of substances on the vessel according to 1.16.1.2.5 contains substances for which explosion protection is required in column (17) of Table C of Chapter 3.2, it shall be deflagration safe against atmospheric explosions of the most critical substance in the list of substances. The deflagration safety shall be tested according to international standard ISO 16852:2016[2] and evidence of compliance with the applicable requirements (e.g., conformity assessment procedure according to Directive 2014/34/EU,[3] the IECEx System,[4] ECE/TRADE/391[5] or at least equivalent) shall be supplied. The deflagration safety may be ensured by an integrated flame arrester plate stack or a flame arrester (protection against deflagrations);

Vapour return piping (on shore) means a pipe of the shore facility which is connected during loading or unloading to the vessel's venting piping;

Vehicle means any vehicle covered by the definition of the term vehicle in the ADR (see *Battery-vehicle, Closed vehicle, Open vehicle, Sheeted vehicle* and *Tank-vehicle)*;

Venting piping (on board) means a pipe of the vessel's installation connecting one or more cargo tanks to the vapour return piping during loading or unloading. This pipe is fitted with safety valves protecting the cargo tank(s) against unacceptable internal overpressure or vacuums;

Vessel means an inland navigation vessel or a seagoing vessel.

Vessel record means a file containing all the important technical information concerning a vessel or a barge such as construction plans and documents about the equipment;

W

Wagon means a rail vehicle without its own means of propulsion that runs on its own wheels on railway tracks and is used for the carriage of goods (see also *battery-wagon, closed wagon, open wagon, sheeted wagon and tank wagon*);

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

Water film means a deluge of water for protection against brittle fracture;

Water spray system means an on-board installation that, by means of a uniform distribution of water, is capable of protecting all the vertical external surfaces of the ship's hull fore and aft, all vertical surfaces of superstructures and deckhouses and deck surfaces above the superstructures, engine rooms and spaces in which combustible materials may be stored. The capacity of the water spray system for the area to be protected should be at least 10 l/m^2 per minute. The water spray system shall be designed for full-year use. The spray system should be operable from the wheelhouse and the safe area;

Watertight means a structural component or device so fitted as to prevent any ingress of water;

Weathertight means a structural component or device so fitted that in normal conditions it allows only a negligible quantity of water to penetrate;

---

2 *Identical to EN ISO 16852:2016*

3 *Official Journal of the European Union No. L 96 of 29 March 2014, p. 309.*

4 *https://www.iecex.com/publications/iecex-rules/*

5 *A Common Regulatory Framework for Equipment Used in Environments with an Explosive Atmosphere, United Nations, 2011.*

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

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

Working pressure

(a) For a compressed gas, means the settled pressure at a reference temperature of 15 °C in a full pressure receptacle;

(b) For UN No. 1001 acetylene, dissolved, means the calculated settled pressure at a uniform reference temperature of 15 °C in an acetylene cylinder containing the specified solvent content and the maximum acetylene content;

(c) For UN No. 3374 acetylene, solvent free, means the working pressure which was calculated for the equivalent cylinder for UN No. 1001 acetylene, dissolved.

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

1.2.2 Units of measurement

1.2.2.1 The following units of measurement [a] are applicable in ADN:

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

[a] *The following round figures are applicable for the conversion of the units hitherto used into SI Units.*

Force

1 kg	= *9.807 N*	*1 kg/mm²*	= *9.807 N/mm²*
1 N	= *0.102 kg*	*1 N/mm²*	= *0.102 kg/mm²*

Pressure

1 Pa	= *1 N/m²*	= *10⁻⁵ bar*	= *1.02 H10⁻⁵ kg/cm²*	= *0.75 H10⁻² torr*
1 bar	= *10⁵ Pa*	= *1.02 kg/cm²*	= *750 torr*	
1 kg/cm²	= *9.807 H10⁴ Pa*	= *0.9807 bar*	= *736 torr*	
1 torr	= *1.33 H10² Pa*	= *1.33 H10⁻³ bar*	= *1.36 H10⁻³ kg/cm²*	

Energy, Work, Quantity of heat

1 J	= *1 N.m*	= *0.278 H10⁻⁶ kWh*	= *0.102 kgm*		*= 0.239 H10⁻³ kcal*
1 kWh	= *3.6 H10⁶ J*	= *367 H10³ kgm*	= *860 kcal*		
1 kgm	= *9.807 J*	= *2.72 H10⁻⁶ kWh*	= *2.34 H10⁻³ kcal*		
1 kcal	= *4.19 H10³ J*	= *1.16 H10⁻³ kWh*	= *427 kgm*		

Power

1 W	= *0.102 kgm/s*	= *0.86 kcal/h*
1 kgm/s	= *9.807 W*	= *8.43 kcal/h*
1 kcal/h	= *1.16 W*	= *0.119 kgm/s*

Kinematic viscosity

1 m²/s	=	*10⁴ St (Stokes)*
1 St	=	*10⁻⁴ m²/s*

Dynamic viscosity

1 Pa.s	=	*1 N.s/m²*	=	*10 P (poise)*	=	*0.102 kg.s/m²*
1 P	=	*0.1 Pa.s*	=	*0.1 N.s/m²*	=	*1.02 H10⁻² kg.s/m²*
1 kg.s/m²	=	*9.807 Pa.s*	=	*9.807 N.s/m²*	=	*98.07 P*

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

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

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

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

NOTE: *10^{9} = 1 billion is United Nations usage in English. By analogy, so is 10^{-9} = 1 billionth.*

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

(a) In the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid, a percentage mass based on the total mass of the mixture, the solution or the wetted solid;

(b) In the case of mixtures of compressed gases, when filled by pressure, the proportion of the volume indicated as a percentage of the total volume of the gaseous mixture, or, when filled by mass, the proportion of the mass indicated as a percentage of the total mass of the mixture;

(c) In the case of mixtures of liquefied gases and dissolved gases, the proportion of the mass indicated as a percentage of the total mass of the mixture.

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

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

1.2.3 List of abbreviations

In ADN, abbreviations, acronyms and abbreviated designations of regulatory texts are used, with the following meaning:

A

"ADR"[*] means the Agreement concerning the International Carriage of Dangerous Goods by Road;

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

C

"CDNI"[**] means Convention on the Collection, Storage and Reception of Waste Generated during Navigation on the Rhine and Other Inland Waterways;

"CEVNI"[***] means the UNECE European Code for Inland Waterways;

"CGA" means the Compressed Gas Association, 8484 Westpark Drive, Suite 220, McLean, Virginia 22102, United States, www.cganet.com;

"CIM"[†] means the Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (Appendix B to the Convention concerning International Carriage by Rail (COTIF)), as amended;

"CMNI"[††] means the Convention on the Contract for the Carriage of Goods by Inland Waterway (Budapest, 22 June 2001)

"CMR"[†††] means the Convention on the Contract for the International Carriage of Goods by Road (Geneva, 19 May 1956), as amended;

"CNG" means compressed natural gas (see 1.2.1);

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

"CSI" means criticality safety index (see 1.2.1);

E

"EIGA" means European Industrial Gas Association, 30 Avenue de l'Astronomie, 1210 Brussels (Belgium), www.eiga.eu;

---

* *The acronym "ADR" corresponds to the French term "Accord relatif au transport international des marchandises dangereuses par route".*

** *The acronym "CDNI" corresponds to the French term "Convention relative à la collecte, au dépôt et à la réception de déchets en navigation rhénane et intérieure".*

*** *The acronym "CEVNI" corresponds to the French term "Code européen des voies de navigation intérieure".*

† *The acronym "CIM" corresponds to the French term "Contrat de transport international ferroviaire de marchandises".*

†† *The acronym "CMNI" corresponds to the French term "Convention de Budapest relative au contrat de transport de marchandises en navigation intérieure".*

††† *The acronym "CMR" corresponds to the French term "Convention relative au contrat de transport international de marchandises par route".*

"EN" (standard) means a European standard published by the European Committee for Standardization (CEN) (CEN, Avenue Marnix 17, B-1000 Brussels, Belgium), www.cen.eu;

F

"FRP" means fibre-reinforced plastics (see 1.2.1);

G

"GESAMP" means the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (see 1.2.1).

"GHS" means Globally Harmonized System of Classification and Labelling of Chemicals (see 1.2.1);

I

"IAEA" means the International Atomic Energy Agency, P.O. Box 100, 1400 Vienna, Austria, www.iaea.org;

"IBC" means intermediate bulk container (see 1.2.1);

"ICAO" means the International Civil Aviation Organization, 999 University Street, Montreal, Quebec H3C 5H7, Canada, www.icao.org;

"ICAO Technical Instructions" means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, (see 1.2.1);

"IMDG" see definition of "IMDG Code" in 1.2.1;

"IMO" means the International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom, www.imo.org;

"IMSBC" see definition of "IMSBC Code" in 1.2.1;

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

L

"LEL": see Lower explosion limit (see 1.2.1);

"LNG" means liquefied natural gas (see 1.2.1);

"LPG" means liquefied petroleum gas (see 1.2.1);

"LSA" (material) means low specific activity material (see 2.2.7.1.3);

M

"MEGC" means multiple-element gas container (see 1.2.1);

"MEMU" means mobile explosives manufacturing unit (see 1.2.1);

N

"N.O.S." means not otherwise specified entry (see 1.2.1);

O

"OTIF" means Intergovernmental Organisation for International Carriage by Rail (OTIF, Gryphenhübeliweg 30, CH-3006 Bern);

R

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

S

"SADT" means self-accelerating decomposition temperature (see 1.2.1);

"SAPT" means self-accelerating polymerization temperature (see 1.2.1);

"SCO" means surface contaminated object (see 2.2.7.1.3);

"SOLAS" means the International Convention for the Safety of Life at Sea, 1974, as amended;

"STCW" means the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended.

T

"TI" means transport index (see 1.2.1);

U

"UEL": see Upper explosion limit (see 1.2.1);

"UIC"‡ means the International Union of Railways, 16 rue Jean Rey, 75015 Paris, France, www.uic.org;

"UNECE" means the United Nations Economic Commission for Europe, Palais des Nations, 8-14 avenue de la Paix, 1211 Geneva 10, Switzerland, www.unece.org;

‡ *The acronym "UIC" corresponds to the French term "Union internationale des chemins de fer".*

CHAPTER 1.3

TRAINING OF PERSONS INVOLVED IN THE CARRIAGE OF DANGEROUS GOODS

1.3.1 Scope and applicability

Persons employed by the participants referred to in Chapter 1.4, whose duties concern the carriage of dangerous goods, shall be trained in the requirements governing the carriage of such goods appropriate to their responsibilities and duties. Employees shall be trained in accordance with 1.3.2 before assuming responsibilities and shall only perform functions, for which required training has not yet been provided, under the direct supervision of a trained person. Training requirements specific to security of dangerous goods in Chapter 1.10 shall also be addressed.

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

NOTE 2: *With regard to expert training, see Chapter 8.2 instead of this section.*

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

1.3.2 Nature of the training

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

1.3.2.1 *General awareness training*

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

1.3.2.2 *Function-specific training*

1.3.2.2.1 Personnel shall be trained, commensurate directly with their duties and responsibilities in the requirements of the regulations concerning the carriage of dangerous goods. Where the carriage of dangerous goods involves a multimodal transport operation, the personnel shall be aware of the requirements concerning other transport modes.

1.3.2.2.2 The crew shall be familiarized with the handling of fire-extinguishing systems and fire-extinguishers.

1.3.2.2.3 The crew shall be familiarized with the handling of the special equipment referred to in 8.1.5.

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

They shall:

- in the case of devices operating with pressurized air, be trained in their handling and maintenance;
- in the case of devices supplied with pressurized air through a hose, be instructed in their handling and maintenance. The instruction shall be supplemented by practical exercises.

1.3.2.2.5 The master shall bring the instructions in writing referred to in 5.4.3 to the attention of the other persons on board to ensure that they are capable of applying them.

1.3.2.3 ***Safety training***

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

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

1.3.2.4 The training shall be periodically supplemented with refresher training to take account of changes in regulations.

1.3.2.5 ***Working instructions concerning explosion protection***

The safety training referred to in 1.3.2.3 shall be supplemented by working instructions concerning explosion protection.

1.3.3 **Documentation**

Records of training received according to this Chapter shall be kept by the employer and made available to the employee or competent authority, upon request. Records shall be kept by the employer for a period of time established by the competent authority. Records of training shall be verified upon commencing a new employment.

CHAPTER 1.4

SAFETY OBLIGATIONS OF THE PARTICIPANTS

1.4.1 General safety measures

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

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

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

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

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

1.4.2 Obligations of the main participants

NOTE 1: *Several participants to which safety obligations are assigned in this section may be one and the same enterprise. Also, the activities and the corresponding safety obligations of a participant can be assumed by several enterprises.*

NOTE 2: *For radioactive material see also 1.7.6.*

1.4.2.1 *Consignor*

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

(a) ascertain that the dangerous goods are classified and authorized for carriage in accordance with ADN;

(b) furnish the carrier with information and data in a traceable form and, if necessary, the required transport documents and accompanying documents (authorizations, approvals, notifications, certificates, etc.), taking into account in particular the requirements of Chapter 5.4 and of the tables in Part 3;

(c) use only packagings, large packagings, intermediate bulk containers (IBCs) and tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks, tank-containers, tank wagons and battery wagons) approved for and suited to the carriage of the substances concerned and bearing the marks prescribed by one of the international Regulations, and use only approved vessels or tank-vessels suitable for the carriage of the goods in question;

(d) comply with the requirements on the means of dispatch and on forwarding restrictions;

(e) ensure that even empty uncleaned and non-degassed tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks, tank-containers, tank wagons and tank vehicles) or empty uncleaned vehicles and containers for carriage in bulk are placarded, marked and labelled in accordance with Chapter 5.3 and that empty uncleaned tanks are closed and present the same degree of leakproofness as if they were full;

(f) In the case of tank-containers, tank wagons and portable tanks carrying refrigerated liquefied gases ensure that the actual holding time is determined if applicable or, in the case of empty, uncleaned tank-containers and portable tanks, ensure that the pressure is sufficiently reduced.

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

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

1.4.2.2 ***Carrier***

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

(a) ascertain that the dangerous goods to be carried are authorized for carriage in accordance with ADN;

(b) ascertain that all information prescribed in ADN related to the dangerous goods to be carried has been provided by the consignor before carriage, that the prescribed documentation is on board the vessel or if electronic data processing (EDP) or electronic data interchange (EDI) techniques are used instead of paper documentation, that data is available during transport in a manner at least equivalent to that of paper documentation;

(c) ascertain visually that the vessels and loads have no obvious defects, leakages or cracks, missing equipment, etc.;

(d) 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;

NOTE: *Before loading and unloading, the carrier shall consult the administration of the landside installation on the availability of means of evacuation.*

(e) verify that the vessels are not overloaded;

(f) ensure that, within the explosion hazardous areas on board the vessel, only electrical and non-electrical installations and equipment that meet the requirements for use in the relevant zone are used;

(g) provide the master with the required instructions in writing and ascertain that the prescribed equipment is on board the vessel;

(h) ascertain that the marking requirements for the vessel have been met;

(i) ascertain that during loading, carriage, unloading, degassing and any other handling of the dangerous goods in the holds or cargo tanks, special requirements are complied with;

(j) ascertain that the vessel substance list in accordance with 1.16.1.2.5 complies with Table C of Chapter 3.2 including the modifications made to it;

(k) complete his section of the checklist referred to in 7.2.3.7.2.2 prior to the degassing of empty or unloaded cargo tanks and piping for loading and unloading of a tank vessel to a reception facility;

(l) complete his section of the checklist referred to in 7.2.4.10 prior to the loading and unloading of the cargo tanks of a tank vessel.

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

1.4.2.2.2 The carrier may, however, in the case of 1.4.2.2.1 (a) and (b), rely on information and data made available to him by other participants. In the case of 1.4.2.2.1 (c) he may rely on what is certified in the "container/vehicle packing certificate" provided in accordance with 5.4.2.

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

1.4.2.2.4 and 1.4.2.2.5 *(Reserved)*

1.4.2.3 ***Consignee***

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

In the context of 1.4.1, he shall in particular:

(a) *(Deleted)*

(b) carry out in the cases provided for by ADN the prescribed cleaning and decontamination of the vessels;

(c) to (h) *(Deleted)*

1.4.2.3.2 and 1.4.2.3.3 *(Deleted)*

1.4.3 Obligations of the other participants

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

1.4.3.1 ***Loader***

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

(a) He shall hand the dangerous goods over to the carrier only if they are authorized for carriage in accordance with ADN;

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

(c) He shall comply with the special requirements concerning loading and handling;

(d) He shall, after loading dangerous goods into a container comply with the requirements concerning placarding, marking and orange-coloured plates conforming to Chapter 5.3;

(e) He shall, when loading packages, comply with the prohibitions on mixed loading taking into account dangerous goods already in the vessel, vehicle, wagon or large container and requirements concerning the separation of foodstuffs, other articles of consumption or animal feedstuffs;

(f) 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;

(g) *(Reserved)*

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

1.4.3.2 ***Packer***

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

(a) the requirements concerning packing conditions, or mixed packing conditions; and

(b) when he prepares packages for carriage, the requirements concerning marking and labelling of the packages.

1.4.3.3 ***Filler***

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

Obligations concerning the filling of tanks (tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers, MEGCs, tank wagons and battery wagons):

(a) He shall ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition;

(b) He shall ascertain that the date specified for the next inspection for tanks has not expired;

(c) He shall only fill tanks with the dangerous goods authorized for carriage in those tanks;

(d) He shall, in filling the tank, comply with the requirements concerning dangerous goods in adjoining compartments;

(e) He shall, during the filling of the tank, observe the permissible degree of filling, permissible filling ratio or permissible mass of contents per litre of capacity, as appropriate, for the substance being filled;

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

(g) He shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him;

(h) He shall, in preparing the dangerous goods for carriage, ensure that the placards, marks, orange-coloured plates and labels are affixed in accordance with Chapter 5.3.

Obligations concerning the bulk loading of dangerous solids in vehicles, wagons or containers:

(i) He shall ascertain, prior to loading, that the vehicles, wagons and containers, and if necessary their equipment, are technically in a satisfactory condition and that the carriage in bulk of the dangerous goods in question is authorized in these vehicles, wagons or containers;

(j) He shall ensure after loading that the orange plates and placards or labels prescribed are affixed in accordance with the requirements of Chapter 5.3 applicable to such vehicles, wagons or containers;

(k) He shall, when filling vehicles, wagons or containers with dangerous goods in bulk, ascertain that the relevant provisions of Chapter 7.3 of RID or ADR are complied with.

Obligations concerning the filling of cargo tanks:

(l) (*Reserved*)

(m) He shall complete his section of the checklist referred to in 7.2.4.10 prior to the loading of the cargo tanks of a tank vessel;

(n) He shall only fill cargo tanks with the dangerous goods accepted in such tanks;

(o) He shall, when necessary, issue a heating instruction in the case of the carriage of substances whose melting point is 0 °C or higher;

(p) He shall ascertain that during loading the trigger for the automatic device for the prevention of overfilling switches off the electric line established and supplied by the on-shore installation and that he can take steps against overfilling;

(q) 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;

(r) He shall ascertain that, when prescribed in 7.2.4.25.5 and when explosion protection is necessary according to column (17) of Table C of Chapter 3.2, there is a flame-arrester in the vapour return piping to protect the vessel against detonations and flame-fronts from the landward side;

(s) He shall ascertain that the loading flows conform to the loading and unloading instructions referred to in 9.3.2.25.9 or 9.3.3.25.9 and that the pressure at the connecting-point of the vapour return piping and the venting piping is not greater than the opening pressure of the pressure relief valve/high velocity vent valve;

(t) He shall ascertain that the joints provided by him for the connecting flange of the ship/shore connections of the loading and unloading piping consist of a material which is not susceptible to be damaged by the cargo or causes a decomposition of the cargo nor forms harmful or dangerous components with it;

(u) He shall ascertain that during the entire duration of loading a permanent and appropriate supervision is assured.

Obligations concerning the bulk loading of dangerous solids in vessels:

(v) When special provision 803 applies, shall guarantee and document, using an appropriate procedure, that the maximum permissible temperature of the cargo is not exceeded and shall provide instructions to the master in a traceable form;

(w) He shall only load the vessel with dangerous goods the bulk carriage of which is authorized in that vessel;

(x) 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.

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

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

(a) ensure compliance with the requirements for construction, equipment, inspections, tests and marking;

(b) ensure that the maintenance of shells and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the tank-container/portable tank satisfies the requirements of ADR, RID or the IMDG Code until the next inspection;

(c) have an exceptional inspection made when the safety of the shell or its equipment is liable to be impaired by a repair, an alteration or an accident.

1.4.3.5 and 1.4.3.6 *(Reserved)*

1.4.3.7 ***Unloader***

1.4.3.7.1 In the context of 1.4.1, the unloader shall in particular:

(a) Ascertain that the correct goods are unloaded by comparing the relevant information on the transport document with the information on the package, container, tank, MEMU, MEGC or conveyance;

(b) Before and during unloading, check whether the packagings, the tank, the conveyance or container have been damaged to an extent which would endanger the unloading operation. If this is the case, ascertain that unloading is not carried out until appropriate measures have been taken;

(c) Comply with all relevant requirements concerning unloading and handling;

(d) Immediately following the unloading of the tank, conveyance or container:

(i) Ensure the removal of any dangerous residues which have adhered to the outside of the tank, conveyance or container during the process of unloading; and

(ii) By unloading of packages, ensure the closure of valves and inspection openings;

(e) Ensure that the prescribed cleaning and decontamination of the conveyances or containers is carried out;

(f) Ensure that the containers, vehicles and wagons, once completely unloaded, cleaned and decontaminated, no longer display the placards, marks and orange-coloured plates that had been displayed in accordance with Chapter 5.3;

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

Additional obligations concerning the unloading of cargo tanks:

(h) Complete his section of the checklist referred to in 7.2.4.10 prior to the unloading of the cargo tanks of a tank vessel;

(i) Ascertain that, when a connection to the venting piping is required and when explosion protection is required according to column (17) of Table C of Chapter 3.2, there is a flame arrester in the vapour return pipe to protect the vessel against detonations and flame-fronts from the landward side;

(j) Ascertain that the unloading flows conform to the instructions on loading and unloading flows referred to in 9.3.2.25.9 or 9.3.3.25.9 and that the pressure at the connecting-point of the vapour return piping and the venting piping or the gas return pipe does not exceed the opening pressure of the pressure relief valve/high velocity vent valve;

(k) Ascertain that the gaskets provided by him for the connecting flange of the ship/shore connections of the loading and unloading piping consist of a material which will not be damaged by the cargo nor causes a decomposition of the cargo nor forms harmful or dangerous components with it;

(l) Ascertain that during the entire duration of unloading a permanent and appropriate supervision is assured;

(m) Ascertain that, during unloading by means of the on-board pump, it is possible for the shore facility to switch it off;

1.4.3.7.2 If the unloader makes use of the services of other participants (cleaner, decontamination facility, etc.) or of the pumps of the vessel he shall take appropriate measures to ensure that the requirements of ADN have been complied with.

1.4.3.8 ***Reception facility operator***

1.4.3.8.1 In the context of 1.4.1, the reception facility operator shall in particular:

(a) Complete his section of the checklist referred to in 7.2.3.7.2.2 prior to the degassing of empty or unloaded cargo tanks and piping for loading and unloading of a tank vessel;

(b) Ascertain that, when prescribed in 7.2.3.7.2.3, there are flame arresters in all the piping of the reception facility which is connected to the degassing vessel, to protect the vessel against detonations and passage of flames from the side of the reception facility.

CHAPTER 1.5

SPECIAL RULES, DEROGATIONS

1.5.1 Bilateral and multilateral agreements

1.5.1.1 In accordance with Article 7, paragraph 1 of ADN, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the requirements of ADN, provided that safety is not compromised thereby. The authority which has taken the initiative with respect to the temporary derogation shall notify such derogations to the Secretariat of the United Nations Economic Commission for Europe which shall bring them to the attention of the Contracting Parties[1].

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

1.5.1.2 The period of validity of the temporary derogation shall not be more than five years from the date of its entry into force. The temporary derogation shall automatically cease as from the date of the entry into force of a relevant amendment to these annexed Regulations.

1.5.1.3 Transport operations on the basis of these agreements shall constitute transport operations in the sense of ADN.

1.5.2 Special authorizations concerning transport in tank vessels

1.5.2.1 *Special authorizations*

1.5.2.1.1 In accordance with paragraph 2 of Article 7 of ADN, the competent authority shall have the right to issue special authorizations to a carrier or a consignor for the international carriage in tank vessels of dangerous substances, including mixtures, the carriage of which in tank vessels is not authorized under these Regulations, in accordance with the procedure set out below.

1.5.2.1.2 The special authorization shall be valid, due account being taken of the restrictions specified therein, for the Contracting Parties and on whose territory the transport operation will take place, for not more than two years unless it is repealed at an earlier date. With the approval of the competent authorities of these Contracting Parties, the special authorization may be renewed for a period of not more than one year.

1.5.2.1.3 The special authorization shall include a statement concerning its repeal at an earlier date and shall conform to the model contained in subsection 3.2.4.1.

1.5.2.2 *Procedure*

1.5.2.2.1 The carrier or the consignor shall apply to the competent authority of a Contracting Party on whose territory the transport operation takes place for the issue of a special authorization.

The application shall conform to the model contained in subsection 3.2.4.2. The applicant shall be responsible for the accuracy of the particulars.

---

1 ***Note by the Secretariat:*** *The special agreements concluded under this Chapter may be consulted on the web site of the Secretariat of the United Nations Economic Commission for Europe (https://unece.org/multilateral-agreements).*

1.5.2.2.2 The competent authority shall consider the application from the technical and safety point of view. If it has no reservations, it shall draw up a special authorization in accordance with the criteria contained in subsection 3.2.4.3 and immediately inform the other competent authorities involved in the carriage in question. The special authorization shall be issued only when the authorities concerned agree to it or have not expressed opposition within a period of two months after receiving the information. The applicant shall receive the original of the special authorization and keep a copy of it on board the vessel(s) involved in the carriage in question. The competent authorities shall immediately communicate to the Administrative Committee the applications for special authorizations, the applications rejected and the special authorizations granted.

1.5.2.2.3 If the special authorization is not issued because doubts or opposition have been expressed, the Administrative Committee shall decide whether or not to issue a special authorization.

1.5.2.3 ***Update of the list of substances authorized for carriage in tank vessels***

1.5.2.3.1 The Administrative Committee shall consider all the special authorizations and applications communicated to it and decide whether the substance is to be included in the list of substances in these Regulations, authorized for carriage in tank vessels.

1.5.2.3.2 If the Administrative Committee enters technical or safety reservations concerning the inclusion of the substance in the list of substances of these Regulations authorized for carriage in tank vessels or concerning certain conditions, the competent authority shall be so informed. The competent authority shall immediately withdraw or, if necessary, modify the special authorization.

1.5.3 Equivalents and derogations (Article 7, paragraph 3 of ADN)

1.5.3.1 ***Procedure for equivalents***

When the provisions of these Regulations prescribe for a vessel the use or the presence on board of certain materials, installations or equipment or the adoption of certain construction measures or certain fixtures, the competent authority may agree to the use or the presence on board of other materials, installations or equipment or the adoption of other construction measures or other fixtures for this vessel if, in line with recommendations established by the Administrative Committee, they are accepted as equivalent.

1.5.3.2 ***Derogations on a trial basis***

The competent authority may, on the basis of a recommendation by the Administrative Committee, issue a trial certificate of approval for a limited period for a specific vessel having new technical characteristics departing from the requirements of these Regulations, provided that these characteristics are sufficiently safe.

1.5.3.3 ***Particulars of equivalents and derogations***

The equivalents and derogations referred to in 1.5.3.1 and 1.5.3.2 shall be entered in the certificate of approval.

CHAPTER 1.6

TRANSITIONAL MEASURES

1.6.1 General

1.6.1.1 Unless otherwise provided, the substances and articles of ADN may be carried until 30 June 2025 in accordance with the requirements of ADN applicable up to 31 December 2024.

1.6.1.2 *(Deleted)*

1.6.1.3 The transitional measures of 1.6.1.3 and 1.6.1.4 of ADR and RID, or falling within the scope of 4.1.5.19 of the IMDG Code, concerning the packaging of substances and articles of Class 1, are also valid for carriage subject to ADN.

1.6.1.4 *(Deleted)*

1.6.1.5 to 1.6.1.7 *(Reserved)*

1.6.1.8 Existing orange-coloured plates which meet the requirements of sub-section 5.3.2.2 applicable up to 31 December 2004 may continue to be used until 31 December 2026 provided that the requirements in 5.3.2.2.1 and 5.3.2.2.2 that the plate, numbers and letters shall remain affixed irrespective of the orientation of the vehicle or wagon are met.

1.6.1.9 *(Reserved)*

1.6.1.10 *(Deleted)*

1.6.1.11 and 1.6.1.12 *(Reserved)*

1.6.1.13 *(Deleted)*

1.6.1.14 IBCs manufactured before 1 January 2011 and conforming to a design type which has not passed the vibration test of 6.5.6.13 of ADR or which was not required to meet the criteria of 6.5.6.9.5 (d) of ADR at the time it was subjected to the drop test, may still be used.

1.6.1.15 IBCs manufactured, remanufactured or repaired before 1 January 2011 need not be marked with the maximum permitted stacking load in accordance with 6.5.2.2.2 of ADR. Such IBCs, not marked in accordance with 6.5.2.2.2 of ADR, may still be used after 31 December 2010 but must be marked in accordance with 6.5.2.2.2 of ADR if they are remanufactured or repaired after that date. IBCs manufactured, remanufactured or repaired between 1 January 2011 and 31 December 2016 and marked with the maximum permitted stacking load in accordance with 6.5.2.2.2 of ADR in force up to 31 December 2014 may continue to be used.

1.6.1.16 to 1.6.1.20 *(Deleted)*

1.6.1.21 to 1.6.1.23 *(Reserved)*

1.6.1.24 and 1.6.1.25 *(Deleted)*

1.6.1.26 Large packagings manufactured or remanufactured before 1 January 2014 and which do not conform to the requirements of 6.6.3.1 of ADR regarding the height of letters, numerals and symbols applicable as from 1 January 2013 may continue to be used. Those manufactured or remanufactured before 1 January 2015 need not be marked with the maximum permitted stacking load in accordance with 6.6.3.3 of ADR. Such large packagings not marked in accordance with 6.6.3.3 of ADR may still be used after 31 December 2014 but must be marked in accordance with 6.6.3.3 of ADR if they are remanufactured after that date. Large packagings manufactured or remanufactured between 1 January 2011 and 31 December 2016 and marked with the maximum permitted stacking load in accordance with 6.6.3.3 of ADR in force up to 31 December 2014 may continue to be used.

1.6.1.27 Means of containment integral to equipment or machinery containing liquid fuels of UN Nos. 1202, 1203, 1223, 1268, 1863 and 3475 constructed before 1 July 2013, which do not conform to the requirements of paragraph (a) of special provision 363 of Chapter 3.3 applicable as from 1 January 2013, may still be used.

1.6.1.28 *(Deleted)*

1.6.1.29 Lithium cells and batteries manufactured according to a type meeting the requirements of sub-section 38.3 of the *Manual of Tests and Criteria*, Revision 3, Amendment 1 or any subsequent revision and amendment applicable at the date of the type testing may continue to be carried, unless otherwise provided in ADN.

Lithium cells and batteries manufactured before 1 July 2003 meeting the requirements of the *Manual of Tests and Criteria*, Revision 3, may continue to be carried if all other applicable requirements are fulfilled.

1.6.1.30 to 1.6.1.32 *(Deleted)*

1.6.1.33 Electric double layer capacitors of UN No. 3499, manufactured before 1 January 2014, need not be marked with the energy storage capacity in Wh as required by sub-paragraph (e) of special provision 361 of Chapter 3.3.

1.6.1.34 Asymmetric capacitors of UN No. 3508, manufactured before 1 January 2016, need not be marked with the energy storage capacity in Wh as required by sub-paragraph (c) of special provision 372 of Chapter 3.3.

1.6.1.35 to 1.6.1.37 *(Reserved)*

1.6.1.38 to 1.6.1.42 *(Deleted)*

1.6.1.43 Vehicles registered or brought into service before 1 July 2017, as defined in special provisions 388 and 669 of Chapter 3.3, and their equipment intended for use during carriage, which conform to the requirements of ADN applicable until 31 December 2016 but containing lithium cells and batteries which do not conform to the provisions of 2.2.9.1.7.1 may continue to be carried as a load in accordance with the requirements of special provision 666 of Chapter 3.3.

1.6.1.44 *(Deleted)*

1.6.1.45 Contracting Parties may, until 31 December 2020, continue to issue training certificates for dangerous goods safety advisers conforming to the model applicable until 31 December 2018, instead of those conforming to the requirements of 1.8.3.18 applicable from 1 January 2019. Such certificates may continue in use to the end of their five-year validity.

1.6.1.46 and 1.6.1.47 *(Deleted)*

1.6.1.48 *(Reserved)*

1.6.1.49 The mark shown in Figure 5.2.1.9.2 applicable until 31 December 2022, may continue to be applied until 31 December 2026.

1.6.1.50 For articles that meet the definition for DETONATORS, ELECTRONIC as described in 2.2.1.4 Glossary of names, and assigned to UN Nos. 0511, 0512 and 0513, the entries for DETONATORS, ELECTRIC (UN Nos. 0030, 0255 and 0456) may continue to be used until 30 June 2025.

1.6.1.51 Adhesives, paint and paint related materials, printing inks and printing ink related materials and resin solutions assigned to UN 3082 environmentally hazardous substance, liquid, N.O.S., packing group III in accordance with 2.2.9.1.10.6 as a consequence of 2.2.9.1.10.5[1] containing 0.025 % or more of the following substances, on their own or in combination:

- 4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT);
- octhilinone (OIT); and
- zinc pyrithione (ZnPT);

may be carried until 30 June 2027 in steel, aluminium, other metal or plastic packagings, which do not meet the requirements of 4.1.1.3, when carried in quantities of 30 litres or less per packaging as follows:

(a) In palletized loads, a pallet box or unit load device, e.g. individual packagings placed or stacked and secured by strapping, shrink or stretch-wrapping or other suitable means to a pallet; or

(b) As inner packagings of combination packagings with a maximum net mass of 40 kg.

1.6.1.52 Inner receptacles of composite IBCs manufactured before 1 July 2021 in accordance with the requirements of 6.5.2.2.4 of ADR in force up to 31 December 2020 and which are not in accordance with the requirements of 6.5.2.2.4 of ADR regarding the marks on the inner receptacles that are not readily accessible for inspection due to the design of the outer casing applicable as from 1 January 2021 may continue be used until the end of their period of use determined in 4.1.1.15 of ADR.

1.6.1.53 *(Reserved)*

1.6.1.54 Vats for the carriage of molten aluminium of UN No. 3257 which have been constructed and approved before 1 July 2025 in accordance with the provisions of national law but which do not, however, conform to the construction and approval requirements of AP11 in 7.3.3.2.7 of ADR applicable as from 1 January 2025 may continue to be used with the approval of the competent authorities in the countries of use.

1.6.1.55 Substances assigned to UN No. 1835 or 3560, may be carried until 31 December 2026 in accordance with the classification provisions and transport conditions of ADN applicable to UN No. 1835 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION up to 31 December 2024.

---

1 *Commission Delegated Regulation (EU) 2020/1182 of 19 May 2020 amending, for the purposes of its adaptation to technical and scientific progress, Part 3 of Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (fifteenth ATP to the CLP), applicable from 1 March 2022.*

1.6.1.56 Substances assigned to UN No. 3423, may be carried until 31 December 2026 in accordance with the classification provisions and transport conditions of ADN applicable up to 31 December 2024.

1.6.1.57 Packagings manufactured before 1 January 2027 and which do not conform to the requirements of 6.1.3.1 of ADR regarding the affixing of marks on non-removable components applicable as from 1 January 2025 may continue to be used.

1.6.2 Pressure receptacles and receptacles for Class 2

The transitional measures of sections 1.6.2 of ADR and RID are also valid for transport operations subject to ADN.

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

The transitional measures of sections 1.6.3 of ADR and RID are also valid for transport operations subject to ADN.

1.6.4 Tank-containers, portable tanks and MEGCs

The transitional measures of sections 1.6.4 of ADR and RID or of section 4.2.0 of the IMDG Code, depending on the case, are also valid for transport operations subject to ADN.

1.6.5 Vehicles

The transitional measures of section 1.6.5 of ADR are also valid for transport operations subject to ADN.

1.6.6 Class 7

The transitional measures of sections 1.6.6 of ADR and RID or of section 6.4.24 of the IMDG Code are also valid for transport operations subject to ADN.

1.6.7 Transitional provisions concerning vessels

1.6.7.1 ***General***

1.6.7.1.1 For the purposes of Article 8 of ADN, section 1.6.7 sets out general transitional provisions in 1.6.7.2 (see Article 8, paragraphs 1, 2 and 4) and supplementary transitional provisions in 1.6.7.3 (see Article 8, paragraph 3).

1.6.7.1.2 In this section:

(a) "Vessel in service" means

- A vessel according to Article 8, paragraph 2, of ADN;
- A vessel for which a certificate of approval has already been issued according to 8.6.1.1 to 8.6.1.4;

In both cases vessels that, as from 31 December 2014, have been without a valid certificate of approval for more than twelve months shall be excluded;

(b) "N.R.M." means that the requirement does not apply to vessels in service except where the parts concerned are replaced or modified, i.e. it applies only to vessels which are **n**ew (as from the date indicated), or to parts which are **r**eplaced or **m**odified after the date indicated; the date of presentation for first inspection for obtaining a certificate of approval shall be decisive for nomination as a new vessel; where existing parts are replaced by spare or replacement parts of the same type and manufacture, this shall not be considered a replacement 'R' as defined in these transitional provisions.

Modification shall also be taken to mean the conversion of an existing type of tank vessel, a type of cargo tank or a cargo tank design to another type or design at a higher level.

When in the general transitional provisions in 1.6.7.2 no date is specified after "N.R.M.", it refers to N.R.M. after 26 May 2000. When in the supplementary transitional provisions in 1.6.7.3, no date is specified, it refers to N.R.M. after 26 May 2000.

(c) "Renewal of the certificate of approval after the ..." means that when a vessel has benefitted from the transitional measure in paragraph (b) the requirement shall be met at the next renewal of the certificate of approval following the date indicated. If the certificate of approval expires during the first year after the date of application of these Regulations, the requirement shall be mandatory only after the expiry of this first year.

(d) Requirements of Chapter 1.6.7 applicable on board vessels in service are only valid if N.R.M. is not applicable.

1.6.7.2 ***General transitional provisions***

1.6.7.2.1 *General transitional provisions for dry cargo vessels*

1.6.7.2.1.1 Vessels in service shall meet:

(a) the requirements of paragraphs mentioned in the table below within the period established therein;

(b) the requirements of paragraphs not mentioned in the table below at the date of application of these Regulations.

The construction and equipment of vessels in service shall be maintained at least at the previous standard of safety.

1.6.7.2.1.1 Table of general transitional provisions: Dry cargo

Paragraphs	Subject	Time limit and comments
7.1.2.19.1	Vessels necessary to provide propulsion Adaptation to the new requirements in 9.1.0.12.4, 9.1.0.40.2, 9.1.0.51 and 9.1.0.52	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements apply to vessels in service: In a pushed convoy or a side-by-side formation, where at least one vessel is required to be in possession of a certificate of approval for the carriage of dangerous goods, all vessels of the convoy or side-by-side formation shall be provided with an appropriate certificate of approval. Vessels not carrying dangerous goods shall comply with the requirements of the following sections, subsections and paragraphs: 1.16.1.1, 1.16.1.2, 1.16.1.3, 7.1.2.5, 8.1.5, 8.1.6.1, 8.1.6.3, 8.1.7, 9.1.0.0, 9.1.0.12.3, 9.1.0.12.5, 9.1.0.17.2, 9.1.0.17.3, 9.1.0.31, 9.1.0.32, 9.1.0.34, 9.1.0.41, 9.1.0.52.7, 9.1.0.56, 9.1.0.71 and 9.1.0.74.
7.1.3.41	Smoking	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2020
7.1.3.51.1	Non-electrical installations and equipment	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2024
7.1.3.51.5	Disconnection of installations and equipment marked in red	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
7.1.3.51.5	Installations and equipment generating surface temperatures of above 200 °C	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
7.1.4.53	Lighting appliances in explosion hazardous areas of zone 2	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2022

1.6.7.2.1.1 Table of general transitional provisions: Dry cargo		
Paragraphs	Subject	Time limit and comments
8.1.2.2 (e) – (h)	Documents which must be carried on board	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2020
8.6.1.1	Changes to certificate of approval, numbers 4 and 8	N.R.M. from 1 January 2023 Renewal of the certificate of approval after 31 December 2022
9.1.0.12.3	Ventilation of accommodation and wheelhouse	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.12.3	Equipment in the accommodation, wheelhouse and service spaces where surface temperatures can be higher than those mentioned under 9.1.0.51 or where electrical installations and equipment which do not meet the requirements of 9.1.0.52.1 are used	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.12.4	Ventilation inlets	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.12.5	Ventilators used in the protected area and hold ventilators which are arranged in the air flow: Temperature class and explosion group	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.31.2	Air intakes of engines	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.1.0.40.2	Fire extinguishing systems permanently fixed in engine rooms	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.1.0.51	Temperature of outer parts of engines and of their air inlets and exhaust ducts	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034

1.6.7.2.1.1 Table of general transitional provisions: Dry cargo		
Paragraphs	Subject	Time limit and comments
9.1.0.52.1	Electrical installations, equipment and appliances located outside the protected area	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements are applicable on board vessels in service: It shall be possible to isolate the electrical equipment in the protected area by means of centrally located switches except where: - In the holds it is of a certified safe type corresponding at least to temperature class T4 and explosion group II B; and - In the protected area on the deck it is of the limited explosion risk type. The corresponding electrical circuits shall have control lamps to indicate whether or not the circuits are live. The switches shall be protected against unintended unauthorized operation. The sockets used in this area shall be designed so as to prevent connection or disconnection except when they are not live. Submerged pumps installed or used in the holds shall be of the certified safe type at least for temperature class T4 and explosion group II B.
9.1.0.52.1	Electrical installations in operation during a stay in the immediate vicinity of or within an onshore assigned zone	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.52.2	Installations and equipment marked in red	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.1.0.52.5	Failure of the power supply for the safety and control equipment	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.1.0.53.4 (a)	EN 15869-1:2019	N.R.M. from 1 January 2023
9.1.0.53.5	Movable electric cables (sheathed, type H 07 RN-F)	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following provisions apply on board vessels in service: Until that date, movable electric cables (sheathed, type H 07 RN-F) must comply with IEC 60245-4:1994
9.1.0.53.6	Non-electrical installations and equipment within the protected area	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.2.0.31.2	Air intakes of engines	N.R.M. Renewal of the certificate of approval after 31 December 2034

1.6.7.2.1.2 and 1.6.7.2.1.3 *(Deleted)*

1.6.7.2.1.4 For a vessel or a barge whose keel was laid before 1 July 2017 and which does not conform to the requirements of 9.x.0.1 concerning the vessel record, the retention of files for the vessel record shall start at the latest at the next renewal of the certificate of approval.

1.6.7.2.2 *General transitional provisions for tank vessels*

1.6.7.2.2.1 Vessels in service shall meet:

(a) the requirements of paragraphs mentioned in the table below within the period established therein;

(b) the requirements of paragraphs not mentioned in the table below at the date of application of these Regulations.

The construction and equipment of vessels in service shall be maintained at least at the previous standard of safety.

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels

Paragraphs	Subject	Time limit and comments
1.2.1	Cargo area Spatial extent above the deck	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements are applicable on board vessels in service: The spatial extent corresponds to a rectangular pyramidal frustum with the following dimensions: Floor area: from board to board and from outer cofferdam bulkhead to outer cofferdam bulkhead Angle of slope of the short sides: 45° Angle of slope of the long sides: 90° Height: 3.00 m Spatial extent of zone 1 corresponds to the cargo area above the deck
1.2.1	Classification in zones Zone 1 Spatial extent	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements are applicable on board vessels in service: the spatial extent of zone 1 corresponds to a rectangular pyramidal fustrum with the following dimensions: Floor area: from board to board and from outer cofferdam bulkhead to outer cofferdam bulkhead Angle of slope of the short sides: 45° Angle of slope of the long sides: 90° Height: 3.00 m
	Zone 2 Spatial extent:	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
1.2.1	Device for the safe depressurization of cargo tanks Deflagration safety Test according to ISO 16852:2016/Proof of conformity with applicable requirements	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 The deflagration safety shall be tested according to EN 12874:2001 including the manufacturer's confirmation under Directive 94/9/EC on board vessels built or modified from 1 January 2001 or if the safe pressure-relief device for the cargo tanks has been replaced since 1 January 2001. In other cases, they shall be of a type approved by the competent authority for the use prescribed.
1.2.1	Electrical apparatus protected against water jets IEC 60529:1989 + A1:1999 + A2:2013	N.R.M. from 1 January 2023
1.2.1	Explosion group IEC 60079-0:2017+ Cor 1:2020	N.R.M. from 1 January 2023
1.2.1	Flame arrester Test according to ISO 16852:2016 or EN ISO 16852:2016	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements are applicable on board vessels in service: Flame arresters shall be: - Tested according to ISO 16852:2010 or EN ISO 16852:2010 if they have been replaced since 1 January 2015 or are on board vessels built or modified since 1 January 2015; - Tested according to EN 12874:2001 if they have been replaced since 1 January 2001 or are on board vessels built or modified since 1 January 2001; - Of a type approved by the competent authority for the use prescribed if they were replaced before 1 January 2001 or are on board vessels built or modified before 1 January 2001.
1.2.1	Flame arrester Proof of conformity with applicable requirement	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
1.2.1	Gas detection system Test according to IEC 60079-29-1:2016 and EN 50271:2010	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2024

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
1.2.1	Gas detection system Test according to IEC/EN 60079-29-1:2016 and EN 50271:2010 or EN 50271:2018	N.R.M. from 1 January 2023 for vessels brought into service before 1 January 2019: Renewal of the certificate of approval after 31 December 2024
1.2.1	Gas detector Test according to IEC 60079-29-1:2016	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
1.2.1	High velocity vent valve Test according to ISO 16852:2016 or EN ISO 16852:2016/Proof of conformity with applicable requirements	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following requirements are applicable on board vessels in service: High velocity vent valves shall be - Tested according to ISO 16852:2010 or EN ISO 16852:2010, including the manufacturer's confirmation in line with Directive 94/9/EC or equivalent, if they have been replaced since 1 January 2015 or are on board vessels built or modified since 1 January 2015. - Tested according to EN 12874:2001, including the manufacturer's confirmation in line with Directive 94/9/EC or equivalent, if they have been replaced since 1 January 2001 or are on board vessels built or modified since 1 January 2001. - Of a type approved by the competent authority for the use prescribed if they were replaced before 1 January 2001 or are on board vessels built or modified before 1 January 2001.
1.2.1	Hold spaces	N.R.M. For Type N open vessels whose hold spaces contain auxiliary appliances and which are carrying only substances of Class 8, with remark 30 in column (20) of Table C of Chapter 3.2. Renewal of the certificate of approval after 31 December 2038.
1.2.1	Limited explosion risk electrical apparatus	N.R.M. Renewal of the certificate of approval after 31 December 2034 Until then, the following requirements apply on board vessels in service: Limited explosion risk electrical apparatus is: - Electrical apparatus which, during normal operation, does not cause sparks or exhibit surface temperatures exceeding 200 °C; or - Electrical apparatus with a spray-water protected housing which, during normal operation, does not exhibit surface temperatures above 200 °C.

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
1.2.1	Oxygen measuring system Test according to EN 50104:2010	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
1.2.1	Oxygen measuring system Test according to standard EN 50104:2019	N.R.M. from 1 January 2023 Until that date, the oxygen measuring system must be checked in accordance with IEC/EN 50104:2010
1.2.1	Oxygen meter Test according to EN 50104:2010	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
1.2.1	Oxygen meter Test according to standard EN 50104:2019	N.R.M. from 1 January 2023 Until that date, the oxygen meter must be checked in accordance with IEC/EN 50104:2010
1.2.1	Protective suit Compliance with EN 1149-5:2018	N.R.M. from 1 January 2023
1.2.1	Sampling opening Deflagration safety Test according to ISO 16852:2016 or EN ISO 16852:2016 /Proof of conformity with applicable requirements	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 The deflagration safety of the sampling opening shall be: - Tested according to ISO 16852:2010 or EN ISO 16852:2010, including the manufacturer's confirmation under Directive 94/9/EC or equivalent, if the sampling opening has been replaced since 1 January 2015 or is on board a vessel built or modified since 1 January 2015. - Tested according to EN 12874:2001, including the manufacturer's confirmation under Directive 94/9/EC or equivalent, if the sampling opening has been replaced since 1 January 2001 or is on board a vessel built or modified since 1 January 2001. - Of a type approved by the competent authority for the use prescribed if the sampling opening was replaced before 1 January 2001 or is on board a vessel built or modified before 1 January 2001.
1.2.1	Types of protection, electrical equipment CEI 60079-0:2017+ Cor 1:2020	N.R.M. from 1 January 2023
1.2.1	Types of protection EEx d, IEC standard	N.R.M. from 1 January 2023

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
1.2.1	Types of protection EEx e, IEC standard	N.R.M. from 1 January 2023
1.2.1	Types of protection EEx m, IEC standard	N.R.M. from 1 January 2023
1.2.1	Types of protection EEx p, EEx q, IEC Standard	N.R.M. from 1 January 2023
1.2.1	Vacuum valve Deflagration safety Test according to standard EN ISO 16852:2016 Proof of conformity with applicable requirements	N.R.M. from 1 January 2019 Renewal of certificate of approval after 31 December 2034 The deflagration safety shall be tested according to EN 12874:2001 including the manufacturer's confirmation under Directive 94/9/EC or equivalent on board vessels built or modified from 1 January 2001 or if the vacuum valve has been replaced since 1 January 2001. In other cases, they shall be of a type approved by the competent authority for the use prescribed.
1.6.7.5.1 (d)	Note of the transitional provisions actually applied	Renewal of the certificate of approval after 31 December 2022
1.16.1.4.2 (e)	Date of application of the transitional provisions in the annex to the certificate of approval in the event of modification	Renewal of the certificate of approval after 31 December 2022
3.2.3.3 and consequential change to Table C	Partly closed sampling device	N.R.M. from 1 January 2025 Renewal of the certificate of approval after 31 December 2024
7.2.2.6	Calibration of gas detection system for n-Hexane	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
7.2.2.19.3	Vessels used for propulsion Adaptation to new provisions Provisions of 9.3.3.12.4, 9.3.3.51 and 9.3.3.52.1 to 9.3.3.52.8	N.R.M. from 1 January 2019 Renewal of certificate of approval after 31 December 2034 Until that date, the following requirements apply to vessels in service: Vessels moving a pushed convoy or a side-by-side formation shall comply with the requirements of the following sections, subsections and paragraphs: 1.16.1.1, 1.16.1.2, 1.16.1.3, 7.2.2.5, 8.1.4, 8.1.5, 8.1.6.1, 8.1.6.3, 8.1.7, 9.3.3.0.1.1 for the vessel's hull, 9.3.3.0.4 last line from table 4 for the vessel's boat, 9.3.3.0.6, 9.3.3.10.1, 9.3.3.10.4, 9.3.3.12.4 (a) except the wheelhouse, 9.3.3.12.4 (b) except for the t90 response time, 9.3.3.12.4 (c), 9.3.3.12.6, 9.3.3.16, 9.3.3.17.1 to 9.3.3.17.4, 9.3.3.31.1 to 9.3.3.31.5, 9.3.3.32.2, 9.3.3.34.1, 9.3.3.34.2, 9.3.3.40.1 (although a single fire or ballast pump is sufficient), 9.3.3.40.2, 9.3.3.41, 9.3.3.50.1 (c), 9.3.3.50.2, 9.3.3.51, 9.3.3.52.6, 9.3.3.52.7, 9.3.3.52.8, 9.3.3.56.5, 9.3.3.71 and 9.3.3.74, when at least one vessel of the convoy or side-by-side formation is carrying dangerous goods. The requirement of 9.3.3.10.4 may be met by fitting vertical protection walls not less than 0.50 m in height. Vessels moving only type N open tank vessels do not have to meet the requirements of paragraphs 9.3.3.10.1, 9.3.3.10.4 and 9.3.3.12.6. These derogations shall be specified in the certificate of approval or the provisional certificate of approval as follows: "Permitted derogations": "Derogation from 9.3.3.10.1, 9.3.3.10.4 and 9.3.3.12.6; the vessel may only move type N open tank vessels.".
7.2.2.19.4	Vessels of the formation for which explosion protection is required	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
7.2.3.20.1	Prohibition against filling cofferdams not fitted out as service spaces, 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, not fitted out as service spaces, may be filled with water during unloading to provide trim and to permit residue-free drainage as far as possible.
7.2.3.20.1	Proof of stability in the event of a leak connected with ballast water	N.R.M. for Type G and Type N vessels. Renewal of the certificate of approval after 31 December 2044.

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
7.2.3.31.2	Motor vehicles only outside the cargo area	N.R.M. for Type N vessels. Renewal of the certificate of approval after 31 December 2034 Until then, the following requirement applies on board vessels in service: the vehicle shall not be started on board.
7.2.3.41	Smoking	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
7.2.3.51.4	Disconnection of non-electrical installations and equipment marked in red	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
7.2.3.51.5	Surface temperature where T4, T5 or T6 are required	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2020
8.1.2.3 (r), (s), (u), (v)	Documents which must be carried on board	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020 Until that date, in addition to the documents required in accordance with 1.1.4.6, the following documents are required: (a) A list of the machinery, appliances or other electrical equipment located in the cargo area, including the following particulars: Machinery or appliance, location, type of protection, type of explosion protection, testing body and approval number; (b) A list of or general plan indicating the electrical equipment located outside the cargo area which may be operated during loading, unloading or degassing. The documents listed above shall bear the stamp of the competent authority issuing the certificate of approval.
8.1.2.3 (t)	Documents which must be carried on board Plan with classification of zones	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, in addition to the documents required in accordance with 1.1.4.6 a plan indicating the boundaries of the cargo area and the location of the electrical equipment installed in that area is required. This plan shall bear the stamp of the competent authority issuing the certificate of approval.
8.1.6.2	EN ISO 10380:2012	N.R.M. from 1 January 2023
8.1.6.2	EN 13765:2018	N.R.M. from 1 January 2023
8.1.6.2	ISO 20519:2021	N.R.M. from 1 January 2025 Renewal of the certificate of approval after 31 December 2040

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
8.1.6.3	Verification of the oxygen measuring system	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
8.1.7.2	Installations, equipment and autonomous protection systems, testing of installations, equipment and autonomous protection systems as well as compliance with the documents referred to in 8.1.2.3 (r) to (v) in respect of the situation on board	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020
8.1.7.2	Marking of installations and equipment to be used in explosion hazardous areas as well as of autonomous protection systems	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.3.2.0.1 (c) 9.3.3.0.1 (c)	Protection of venting piping against corrosion	N.R.M. from 1 January 2001 Renewal of the certificate of approval after 31 December 2034
9.3.1.0.6 9.3.2.0.6 9.3.3.0.6	Fire-resistant materials of accommodation and wheelhouse	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.3.3.8.1	Continuation of class	N.R.M. for Type N open vessels with flame arresters and Type N open vessels. Renewal of the certificate of approval after 31 December 2044. Until then, the following requirements apply on board vessels in service: Except where otherwise provided, the type of construction, the strength, the subdivision, the equipment and the gear of the vessel shall conform or be equivalent to the construction requirements for classification in the highest class of a recognized classification society.
9.3.1.10.1 9.3.2.10.1 9.3.3.10.1	Penetration of gases and liquids into the wheelhouse Windows that can be opened	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.3.1.10.2 9.3.2.10.2 9.3.3.10.2	Height of protective coaming	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2020

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.10.3 9.3.2.10.3 9.3.3.10.3	Protection wall	N.R.M. from 1 January 2019 Renewal of certificate of approval after 31 December 2024
9.3.1.10.4 9.3.2.10.4 9.3.3.10.4	Door coamings, etc.	N.R.M. Renewal of the certificate of approval after 31 December 2034 Until then, the following requirements apply on board vessels in service, with the exception of Type N open vessels: This requirement may be met by fitting vertical protection walls not less than 0.50 m in height. Until then, on board vessels in service less than 50.00 m long, the height of 0.50 m may be reduced to 0.30 m in passageways leading to the deck.
9.3.1.11.1 (b)	Ratio of length to diameter of pressure cargo tanks	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.3.11.1 (d)	Limitation of length of cargo tanks	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.11.2 (a)	Arrangement of cargo tanks Distance between cargo tanks and side walls Height of saddles	N.R.M. for Type G vessels whose keels were laid before 1 January 1977. Renewal of the certificate of approval after 31 December 2044

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.11.2 (a)	Arrangement of cargo tanks Distance between cargo tanks and side walls Height of saddles	N.R.M. Renewal of the certificate of approval after 31 December 2044 Until then, the following requirements apply on board vessels in service whose keels were laid after 31 December 1976: Where tank volume is more than 200 m^3 or where the ratio of length to diameter is less than 7 but more than 5, the hull in the tank area shall be such that, in the event of a collision, the tanks remain intact as far as possible. This requirement shall be considered as having been met where, in the tank area, the vessel: - is double-hulled with a distance of at least 80 cm between the side plating and the longitudinal bulkhead - or is designed as follows: (a) Between the gangboard and the top of the floorplates there shall be side stringers at regular intervals of not more than 60 cm; (b) The side stringers shall be supported by web frames spaced at intervals of not more than 2.00 m. The height of the web frames shall be not less than 10% of the depth and in any event not less than 30 cm. They shall be fitted with a face plate made of flat steel having a cross section of not less than 15 cm^2; (c) The side stringers referred to in (a) shall have the same height as the web frames and be fitted with a face plate made of flat steel having a cross section of not less than 7.5 cm^2.
9.3.1.11.2 (a)	Distance between suction wells and floor plates	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.11.2 (b) 9.3.2.11.2 (b) 9.3.3.11.2 (a)	Cargo tank fastenings	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.11.2 (c) 9.3.2.11.2 (c) 9.3.3.11.2 (b)	Capacity of suction well	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.11.2 (d) 9.3.2.11.2 (d)	Side struts between the hull and the cargo tanks	N.R.M. from 1 January 2001 Renewal of the certificate of approval after 31 December 2044
9.3.3.11.2 (d)	Side struts between the hull and the cargo tanks	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2044

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.11.3 (a)	End bulkheads of cargo area with "A-60" insulation. Distance of 0.50 m from cargo tanks to end bulkheads	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.2.11.3 (a) 9.3.3.11.3 (a)	Width of cofferdams of 0.60 m Hold spaces with cofferdams or "A-60" insulated bulkheads Distance of 0.50 m from cargo tanks in hold spaces	N.R.M. Renewal of the certificate of approval after 31 December 2044 Until then, the following requirements apply on board vessels in service: Type C: minimum width of cofferdams: 0.50 m; Type N: minimum width of cofferdams: 0.50 m; on board vessels with a deadweight of up to 150 t: 0.40 m; Type N open: cofferdams shall not be required on board vessels with a deadweight up to 150 t and oil separator vessels: The distance between cargo tanks and end bulkheads of hold spaces shall be at least 0.40m.
9.3.3.11.4	Penetrations through the end bulkheads of hold spaces	N.R.M. from 1 January 2005 for Type N open vessels whose keels were laid before 1 January 1977. Renewal of the certificate of approval after 31 December 2044.
9.3.3.11.4	Distance of piping in relation to the bottom	N.R.M. from 1 January 2005 Renewal of the certificate of approval after 31 December 2038
9.3.3.11.6 (a)	Form of cofferdam arranged as a pump room	N.R.M for Type N vessels whose keels were laid before 1 January 1977. Renewal of the certificate of approval after 31 December 2044.
9.3.3.11.7	Distance between the cargo tanks and the outer wall of the vessel	N.R.M. after 1 January 2001 Renewal of the certificate of approval after 31 December 2038
9.3.3.11.7	Width of double hull	N.R.M. after 1 January 2007 Renewal of the certificate of approval after 31 December 2038
9.3.1.11.7	Distance between the suction well and the bottom spaces	N.R.M. after 1 January 2003 Renewal of the certificate of approval after 31 December 2038
9.3.3.11.8	Arrangement of service spaces located in the cargo area below decks	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2038.
9.3.1.11.8 9.3.2.11.10 9.3.3.11.9	Interval between reinforcing elements	N.R.M. Renewal of the certificate of approval after 31 December 2044

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.12.4 9.3.2.12.4 9.3.3.12.4	Ventilation of the wheelhouse	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.3.1.12.4 9.3.2.12.4 9.3.3.12.4	Equipment in the accommodation, wheelhouse and service spaces where surface temperatures can be higher than those mentioned in 9.3.x.51 (a)	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.12.4 9.3.2.12.4 9.3.3.12.4	Equipment in the wheelhouse where surface temperatures can be higher than those mentioned in 9.3.x.51 (a) or involving the use of electrical equipment which does not meet the requirements of 9.3.x.52.1	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.12.4 9.3.3.12.4	Electrical installations and equipment used during loading, unloading, degassing and when in the immediate vicinity of or within an onshore assigned zone	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, on board type G and type N vessels whose keels were laid before 1 January 1977, all electrical equipment except the lighting installations in accommodation, radio telephone installations in the accommodation and the wheelhouse and combustion engine control appliances, shall meet the following requirements: Generators, engine, etc.: IP 13 protection mode Switchboards, switches near entrances to accommodation, etc.: IP23 protection mode Appliances, etc.: IP 55 protection mode
9.3.1.12.4 9.3.2.12.4 9.3.3.12.4	Non-electrical installations and equipment used during loading, unloading, degassing and when in the immediate vicinity of or within an onshore assigned zone	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.12.4 (b) 9.3.2.12.4 (b) 9.3.3.12.4 (b)	Gas detection system: T90-time	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.12.4 9.3.2.12.4 9.3.3.12.4	Alarms outstanding	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2024

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.12.6 9.3.2.12.6 9.3.3.12.6	Distance between ventilation inlets in the wheelhouse and the cargo area	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.12.6 9.3.2.12.6 9.3.3.12.6	Distance between ventilation openings of accommodation and service spaces and the cargo area	N.R.M. from 1 January 2003 Renewal of certificate of approval after 31 December 2034
9.3.1.13 9.3.3.13	Stability (general)	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.3.13.3 paragraph 2	Stability (general)	N.R.M. from 1 January 2007 Renewal of the certificate of approval after 31 December 2044
9.3.1.14 9.3.3.14	Stability (intact)	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.15	Stability (damaged condition)	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.3.15	Stability (damaged condition)	N.R.M. after 1 January 2007 Renewal of the certificate of approval after 31 December 2044
9.3.1.16.1 9.3.3.16.1	Distance of openings of engine rooms from the cargo area	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.3.16.1	Internal combustion engines outside the cargo area	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2034.
9.3.1.16.2 9.3.3.16.2	Hinges of doors facing the cargo area	N.R.M. for vessels whose keels were laid before 1 January 1977 where alterations would obstruct other major openings. Renewal of the certificate of approval after 31 December 2034.
9.3.3.16.2	Engine rooms accessible from the deck	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2034.

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.17.1 9.3.3.17.1	Accommodation and wheelhouse outside the cargo area	N.R.M. for vessels whose keels were laid before 1 January 1977, provided that there is no connection between the wheelhouse and other enclosed spaces. Renewal of the certificate of approval after 31 December 2044. Renewal of the certificate of approval after 31 December 2044 for vessels up to 50 m in length whose keels were laid before 1 January 1977 and whose wheelhouses are located in the cargo area even if it provides access to another enclosed space, provided that safety is ensured by appropriate service requirements of the competent authority.
9.3.3.17.1	Accommodation and wheelhouse outside the cargo area	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2044.
9.3.1.17.2 9.3.2.17.2 9.3.3.17.2	Arrangement of entrances and openings of forward superstructures	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.17.2 9.3.2.17.2 9.3.3.17.2	Entrances facing the cargo area	N.R.M. for vessels up to 50 m in length whose keels were laid before 1 January 1977, provided that gas screens are installed. Renewal of the certificate of approval after 31 December 2044.
9.3.3.17.2	Entrances and openings	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2044.
9.3.1.17.4 9.3.3.17.4	Distance of openings from the cargo area	N.R.M. Renewal of the certificate of approval after 31 December 2044.
9.3.1.17.6 9.3.2.17.6 9.3.3.17.6	Distance between the ventilation inlets in the pump room and the wheelhouse	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.17.6 9.3.2.17.6 9.3.3.17.6	Oxygen measuring system Minimum value for the alarm	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2020
9.3.1.17.6 9.3.2.17.6 9.3.3.17.6	Alarms outstanding	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.3.2.20.1 9.3.3.20.1	Access to cofferdams or cofferdam compartments	N.R.M. from 1 January 2015 Renewal of the certificate of approval after 31 December 2034

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.2.20.4 9.3.3.20.4	Explosion group/subgroup	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2020
9.3.2.21.1 (g) 9.3.3.21.1 (g)	Explosion group/subgroup	N.R.M. From 1 January 2019 Renewal of certificate of approval after 31 December 2020
9.3.1.21.7 9.3.2.21.7 9.3.3.21.7	Alarms outstanding	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2024
9.3.1.22.1 (b)	Height of cargo tank openings above the deck	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.3.22.1 (b)	Cargo tank openings 0.50 m above the deck	N.R.M. Renewal of the certificate of approval after 31 December 2044 for vessels whose keels were laid before 1 January 1977.
9.3.2.22.4 (e) 9.3.3.22.4 (d)	Explosion group/subgroup	N.R.M. From 1 January 2019 Renewal of certificate of approval after 31 December 2020
9.3.3.23.2	Test pressure for cargo tanks	N.R.M. for vessels whose keels were laid before 1 January 1977, for which a test pressure of 15 kPa (0.15 bar) is required. Renewal of the certificate of approval after 31 December 2044. Until then, a test pressure of 10 kPa (0.10 bar) shall be sufficient.
9.3.3.23.2	Test pressure for cargo tanks	N.R.M. for oil-separator vessels in service before 1 January 1999. Renewal of the certificate of approval after 31 December 2044. Until then, a test pressure of 5 kPa (0.05 bar) is sufficient.
9.3.3.23.3	Test pressure for piping for loading and unloading	N.R.M. for oil-separator vessels in service before 1 January 1999. Renewal of the certificate of approval at the latest by 1 January 2039. Until then, a test pressure of 400 kPa (4 bar) is sufficient.
9.3.1.25.1 9.3.2.25.1 9.3.3.25.1	Distance of pumps, etc. from accommodation, etc.	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.25.2 (d) 9.3.2.25.2 (d)	Position of loading and unloading piping on deck	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.25.2 (e) 9.3.2.25.2 (e) 9.3.3.25.2 (e)	Distance of shore connections from accommodation, etc.	N.R.M. Renewal of the certificate of approval after 31 December 2034

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.2.25.2 (i)	Piping for loading and unloading, and venting piping, shall not have flexible connections fitted with sliding seals.	N.R.M. from 1 January 2009 Vessels in service having connections with sliding seals may no longer transport substances with toxic or corrosive properties (see column (5) of Table C of Chapter 3.2, hazards 6.1 and 8) following the renewal of the certificate of approval after 31 December 2008. Vessels in service shall not have flexible connections fitted with sliding seals following the renewal of the certificate of approval after 31 December 2018
9.3.3.25.2 (h)	Piping for loading and unloading, and venting piping, shall not have flexible connections fitted with sliding seals	N.R.M. from 1 January 2009 Vessels in service having connections with sliding seals may no longer transport substances with corrosive properties (see column (5) of Table C of Chapter 3.2, hazard 8) following the renewal of the certificate of approval after 31 December 2008. Vessels in service shall not have flexible connections with sliding seals following the renewal of the certificate of approval after 31 December 2018.
9.3.2.26.2 9.3.3.26.2 (b)	Explosion group/subgroup	N.R.M. From 1 January 2019 Renewal of certificate of approval after 31 December 2020
9.3.1.31.2 9.3.2.31.2 9.3.3.31.2	Distance of engine air intakes from the cargo area	N.R.M. Renewal of the certificate of approval after 31 December 2044
9.3.1.35.1 9.3.3.35.1	Stripping and ballast pumps in the cargo area	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.3.1.40.2 9.3.2.40.2 9.3.3.40.2	Fixed fire extinguishing system in engine room, cargo pump rooms and all spaces containing essential equipment for the refrigerant equipment	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.3.1.41.1 9.3.3.41.1	Outlets of funnels located not less than 2 m from the cargo area	N.R.M. Renewal of the certificate of approval after 31 December 2044 for vessels whose keels were laid before 1 January 1977.
9.3.3.41.1	Outlets of funnels	N.R.M. at the latest by 1 January 2039 for oil-separator vessels
9.3.3.42.2	Cargo heating system	N.R.M for Type N open vessels. Renewal of the certificate of approval after 31 December 2034. Until then, the following requirements apply on board vessels in service: This can be achieved by one oil separator fitted to the condensed water return pipe.

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.1.51 (a) 9.3.2.51 (a) 9.3.3.51 (a)	The surface temperature of non-electrical installations and equipment shall not exceed 200 °C	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.52.1 9.3.2.52.1 9.3.3.52.1	Electrical installations and equipment of the limited explosion risk type	N.R.M. Renewal of certificate of approval after 31 December 2034 Until that date, the following documents are required for electrical equipment used during loading, unloading and degassing of vessels in service whose keels were laid after 1 January 1995: 9.3.1.52.3, 9.3.2.52.3 and 9.3.3.52.3 of the version of ADN in force until 31 December 2018
9.3.1.52.1 9.3.3.52.1	Electrical installations and equipment of the limited explosion risk type	N.R.M. Renewal of the certificate of approval after 31 December 2034 Until that date, on board vessels whose keels were laid before 1 January 1977, all electrical equipment except the lighting installations in the accommodation, radio telephone installations in the accommodation and the wheelhouse and combustion engine control appliances in use during loading, unloading and degassing shall meet the following requirements: Generators, engines, switchboards, lighting, etc.: IP 13 protection mode Appliances, etc.: IP 55 protection mode
9.3.3.52.1	Electrical installations and equipment in operation during a stay in the immediate vicinity of or within an onshore assigned zone	N.R.M. from 1 January 2019 for open Type N vessels Renewal of certificate of approval after 31 December 2034
9.3.3.52.2	Electrical installations and equipment/echo sounding devices	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2034.
9.3.3.52.3	Electrical installations and equipment: marking in red	N.R.M. from 1 January 2019 for open Type N vessels Renewal of certificate of approval after 31 December 2034
9.3.1.52.3 9.3.2.52.3 9.3.3.52.3 last sentence	Disconnection of such electrical installations and equipment from a centralized location	N.R.M. Renewal of the certificate of approval after 31 December 2034
9.3.1.52.4 9.3.2.52.4 9.3.3.52.4	Visual and audible alarm	N.R.M. Renewal of the certificate of approval after 31 December 2034

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
9.3.3.52.6	Shutting down multipolar switch for continuously driven generator	N.R.M. for Type N open vessels Renewal of the certificate of approval after 31 December 2034
9.3.3.52.9	Permanently fitted sockets	N.R.M. for Type N open vessels Renewal of the certificate of approval after 31 December 2034
9.3.3.52.10	Accumulators located outside the cargo area	N.R.M. for Type N open vessels. Renewal of the certificate of approval after 31 December 2034.
9.3.1.53.1 9.3.2.53.1 9.3.3.53.1	Type and location of electrical installations and equipment intended to be used in explosion hazardous areas Zone 0, Zone 1	N.R.M. from 1 January 2019 Renewal of certificate of approval after 31 December 2034 Until that date, the following requirements are applicable: (a) In cargo tanks and piping for loading and unloading, only measuring, regulation and alarm devices of the EEx (ia) type of protection may be installed. (b) Electrical equipment on deck in the cargo area and the measuring, regulation and alarm apparatus, motors driving essential equipment such as ballast pumps in the cofferdams, double-hull spaces, double bottoms, hold spaces and service spaces below deck in the cargo area shall be checked and approved by the competent authority with respect to the safety of operation in an explosive atmosphere, for example, intrinsically safe apparatus, flameproof enclosure apparatus, apparatus protected by pressurization, powder filling apparatus, apparatus protected by encapsulation and increased safety apparatus. (c) In the cofferdams, double-hull spaces, double bottoms, hold spaces and service spaces below deck in the cargo area, the lighting appliances must have the "flame-proof enclosure" or "apparatus protected by pressurization" type of protection. (d) The control and protective equipment of the equipment referred to in (a), (b) and (c) above shall be located outside the cargo area if they are not intrinsically safe. For the selection of electrical equipment, the explosion groups and temperature classes assigned to the substances carried in the list of substances shall be taken into consideration (see columns (15) and (16) of Table C of Chapter 3.2). Until that date, the following requirements apply on board vessels in service whose keels were laid before 31 December 1977:

1.6.7.2.2.2 Table of general transitional provisions: Tank vessels		
Paragraphs	Subject	Time limit and comments
		Until that date, the following conditions shall be met during loading, unloading and degassing on board vessels having non-gastight wheelhouse openings (e.g. doors, windows, etc.) in the cargo area: (a) All electrical equipment to be used in the wheelhouse shall be of a limited explosion-risk type, i.e., it shall be so designed that there is no sparking and the temperature of its outer surface does not rise above 200 °C during normal operation, or it shall be of a type protected against water jets and designed in such a way that its surface temperature may not exceed 200 °C during normal operation. (b) Electrical equipment which does not meet the requirements of (a) above shall be marked in red and it shall be possible to switch it off by means of a central switch.
9.3.1.53.1 9.3.2.53.1 9.3.3.53.1	Type and location of electrical installations and equipment intended to be used in explosion hazardous areas Zone 2	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.53.1 9.3.2.53.1 9.3.3.53.1	Temperature class and explosion group of non-electrical installations and equipment	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.53.1 9.3.2.53.1 9.3.3.53.1	Temperature class and explosion group of electrical installations and equipment	N.R.M. From 1 January 2019 Renewal of the certificate of approval after 31 December 2034
9.3.1.53.2 9.3.3.53.2	Metallic sheaths for all electric cables in the cargo area	N.R.M. for vessels whose keels were laid before 1 January 1977. Renewal of the certificate of approval after 31 December 2034.
9.3.3.53.2	Metallic sheaths for all electric cables in the cargo area	N.R.M. by 1 January 2039 at the latest for oil-separator vessels.
9.3.1.53.5 9.3.2.53.5 9.3.3.53.5	Movable electric cables (sheathed, type H 07 RN-F)	N.R.M. from 1 January 2019 Renewal of the certificate of approval after 31 December 2034 Until that date, the following provisions apply on board vessels in service: Until that date, movable electric cables (sheathed, type H 07 RN-F) must comply with IEC 60245-4:1994

1.6.7.2.2.3 Transitional provisions concerning the application of the requirements of Table C of Chapter 3.2 to the carriage of goods in tank vessels.

1.6.7.2.2.3.1 to 1.6.7.2.2.3.3 *(Deleted)*

1.6.7.2.2.4 and 1.6.7.2.2.5 *(Deleted)*

1.6.7.3 ***Supplementary transitional provisions applicable to specific inland waterways***

Vessels in service to which the transitional provisions of this subsection are applied shall meet:

- the requirements of paragraphs and subparagraphs mentioned in the table below and in the table of general transitional provisions (see 1.6.7.2.1.1 and 1.6.7.2.2.1) within the period established therein;

- the requirements of paragraphs and subparagraphs not mentioned in the table below or in the table of general transitional provisions at the date of application of these Regulations.

The construction and equipment of vessels in service shall be maintained at least at the previous standard of safety.

Table of supplementary transitional provisions		
Paragraph	Subject	Time limit and comments
9.1.0.11.1 (b)	Holds, common bulkheads with oil fuel tanks	N.R.M. The following requirements apply on board vessels in service: Holds may share a common bulkhead with the oil fuel tanks, provided that the cargo or its packaging does not react chemically with the fuel.
9.1.0.92	Emergency exit	N.R.M. The following requirements apply on board vessels in service: Spaces the entrances or exits of which are partly or fully immersed in damaged condition shall be provided with an emergency exit not less than 0.075 m above the damage waterline.
9.1.0.95.1 (c)	Height of openings above damage waterline	N.R.M. The following requirements apply on board vessels in service: The lower edge of any non-watertight openings (e.g. doors, windows, access hatchways) shall, at the final stage of flooding, be not less than 0.075 m above the damage waterline.
9.1.0.95.2 9.3.2.15.2	Extent of the stability diagram (damaged condition)	N.R.M. The following requirements apply on board vessels in service: At the final stage of flooding the angle of heel shall not exceed: 20° before measures to right the vessel; 12° following measures to right the vessel.

Table of supplementary transitional provisions		
Paragraph	Subject	Time limit and comments
9.3.3.8.1	Classification	N.R.M. for Type N open vessels with flame arresters and Type N open vessels. Renewal of the certificate of approval after 31 December 2044.
9.3.1.11.1 (a) 9.3.2.11.1 (a) 9.3.3.11.1 (a)	Maximum capacity of cargo tanks	N.R.M. The following requirements apply on board vessels in service: The maximum permissible capacity of a cargo tank shall be 760 m^3.
9.3.2.11.1 (d)	Length of cargo tanks	N.R.M. The following requirements apply on board vessels in service: The length of a cargo tank may exceed 10 m and 0.2 L.
9.3.1.12.3 9.3.2.12.3 9.3.3.12.3	Position of air inlets	N.R.M. The following requirements apply on board vessels in service: The air inlets to be positioned at least 5.00 m from the safety-valve outlets
9.3.2.15.1 (c)	Height of openings above damage waterline	N.R.M. The following requirements apply on board vessels in service: The lower edge of any non-watertight openings (e.g. doors, windows, access hatchways) shall, at the final stage of flooding, be not less than 0.075 m above the damage waterline.
9.3.2.20.2 9.3.3.20.2	Filling of cofferdams with water	N.R.M. The following requirements apply on board vessels in service: Cofferdams shall be fitted with a system for filling with water or inert gas.
9.3.1.92 9.3.2.92	Emergency exit	N.R.M. The following requirements apply on board vessels in service: Spaces the entrances or exits of which are partly or fully immersed in damaged condition shall be provided with an emergency exit not less than 0.075 m above the damage waterline.

1.6.7.4 ***Transitional provisions concerning the transport of substances hazardous to the environment or to health***

1.6.7.4.1 *Transitional provisions: vessels*

Supply vessels and oil separator vessels in service on 1 January 2009 with a dead weight on 1 January 2007 of less than 300 tonnes may continue to transport the substances they were authorized to carry on 31 December 2008 until 31 December 2038.

1.6.7.4.2 *(Deleted)*

1.6.7.5 ***Transitional provisions concerning the modification of tank vessels***

1.6.7.5.1 For vessels for which a modification of the cargo area, in order to achieve a Type N double-hull vessel, has been accomplished before 31 December 2018, the following conditions apply:

(a) The modified or new cargo area shall comply with the provisions of these regulations. Transitional provisions under 1.6.7.2.2 may not be applied for the cargo area;

(b) The vessel parts outside of the cargo area shall comply with the provisions of these regulations. However, transitional provisions under 1.6.7.2.2 for 1.2.1, 9.3.3.0.3 (d), 9.3.3.51.3, 9.3.3.52.4 last sentence, applicable until 31 December 2018, may be applied;

(c) If goods which require explosion protection are entered in the list of substances on the vessel according to 1.16.1.2.5, accommodation and wheelhouses shall be equipped with a fire alarm system according to 9.3.3.40.2.3;

(d) The application of this sub-section, including the transitional provisions actually applied, shall be entered in the certificate of approval under No. 13 (Additional observations).

1.6.7.5.2 Modified vessels may continue to be operated beyond 31 December 2018. The time limits stipulated in the transitional provisions under 1.6.7.2.2 for 1.2.1, 9.3.3.0.3 (d), 9.3.3.51.3, 9.3.3.52.4 last sentence, applicable until 31 December 2018, shall be observed.

1.6.7.6 ***Transitional provisions concerning the transport of gases in tank vessels***

Tank vessels in service on 1 January 2011 with a pump room below deck may continue to transport the substances listed in the following table until the renewal of the certificate of approval after 1 January 2045.

UN No. or ID No.	Class and classification code	Name and description
1005	2, 2TC	AMMONIA, ANHYDROUS
1010	2, 2F	1,2-BUTADIENE, STABILIZED
1010	2, 2F	1,3-BUTADIENE, STABILIZED
1010	2, 2F	BUTADIENE STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l
1011	2, 2F	BUTANE
1012	2, 2F	1-BUTYLENE
1020	2,2A	CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)
1030	2,2F	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)
1033	2,2F	DIMETHYL ETHER
1040	2,2TF	ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C
1055	2,2F	ISOBUTYLENE
1063	2,2F	METHYL CHLORIDE (REFRIGERANT GAS R 40)
1077	2,2F	PROPYLENE
1083	2,2F	TRIMETHYLAMINE, ANHYDROUS
1086	2,2F	VINYL CHLORIDE, STABILIZED
1912	2,2F	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE A)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE A0)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE A01)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE A02)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE A1)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE B)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE B1)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE B2)
1965	2,2F	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., (MIXTURE C)
1969	2,2F	ISOBUTANE
1978	2,2F	PROPANE
9000		AMMONIA, ANHYDROUS, DEEPLY REFRIGERATED

1.6.8 Transitional provisions concerning training of the crew

1.6.8.1 *(Deleted)*

1.6.8.2 Instead of issuing certificates of special knowledge of ADN in accordance with 8.2.2.8.2 and 8.6.2, Contracting Parties may, until 31 December 2021, issue certificates according to the model applicable until 31 December 2018. Such certificates shall be valid until the expiry of their validity of five years.

1.6.8.3 Certificates of specific knowledge of ADN referred to in 8.2.2.8 issued before 1 January 2023 and which conform to the format laid down in ISO/IEC 7810:2003 shall remain valid until the expiry date indicated therein.

1.6.9 Transitional provisions concerning recognition of classification societies

1.6.9.1 *(Deleted)*

CHAPTER 1.7

GENERAL PROVISIONS CONCERNING RADIOACTIVE MATERIAL

1.7.1 Scope and application

NOTE 1: *In the event of a nuclear or radiological emergency during the carriage of radioactive material, provisions as established by relevant national and/or international organizations, shall be observed to protect people, property and the environment. This includes arrangements for preparedness and response established in accordance with the national and/or international requirements and in a consistent and coordinated manner with the national and/or international emergency arrangements.*

NOTE 2: *The arrangements for preparedness and response shall be based on the graded approach and take into consideration the identified hazards and their potential consequences, including the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the environment in the event of a nuclear or radiological emergency. Guidance for the establishment of such arrangements is contained in "Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSR Part 7, IAEA, Vienna (2015); "Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-2, IAEA, Vienna (2011); "Arrangements for Preparedness for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GS-G-2.1, IAEA, Vienna (2007), and "Arrangements for the Termination of a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-11, IAEA, Vienna (2018).*

1.7.1.1 ADN establishes standards of safety which provide an acceptable level of control of the radiation, criticality and thermal hazards to people, property and the environment that are associated with the carriage of radioactive material. ADN is based on the 2018 edition of the IAEA Regulations for the Safe Transport of Radioactive Material. Explanatory material can be found in "Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (2018 Edition)", Safety Standards Series No. SSG-26 (Rev.1), IAEA, Vienna (2019).

1.7.1.2 The objective of ADN is to establish requirements that shall be satisfied to ensure safety and to protect people, property and the environment from harmful effects of ionizing radiation during the carriage of radioactive material. This protection is achieved by requiring:

(a) Containment of the radioactive contents;

(b) Control of external dose rate;

(c) Prevention of criticality; and

(d) Prevention of damage caused by heat.

These requirements are satisfied firstly by applying a graded approach to contents limits for packages and vehicles and to performance standards applied to package designs depending upon the hazard of the radioactive contents. Secondly, they are satisfied by imposing conditions on the design and operation of packages and on the maintenance of packagings, including a consideration of the nature of the radioactive contents. Thirdly, they are satisfied by requiring administrative controls including, where appropriate, approval by competent authorities. Finally, further protection is provided by making arrangements for planning and preparing emergency response to protect people, property and the environment.

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

(a) Routine conditions of carriage (incident free);

(b) Normal conditions of carriage (minor mishaps);

(c) Accident conditions of carriage.

1.7.1.4 The provisions laid down in ADN do not apply to any of the following:

(a) Radioactive material that is an integral part of the means of transport;

(b) Radioactive material moved within an establishment which is subject to appropriate safety regulations in force in the establishment and where the movement does not involve public roads or railways;

(c) Radioactive material implanted or incorporated into a person or live animal for diagnosis or treatment;

(d) Radioactive material in or on a person who is to be transported for medical treatment because the person has been subject to accidental or deliberate intake of radioactive material or to contamination;

(e) Radioactive material in consumer products which have received regulatory approval, following their sale to the end user;

(f) Natural material and ores containing naturally occurring radionuclides (which may have been processed), provided the activity concentration of the material does not exceed 10 times the values specified in Table 2.2.7.2.2.1, or calculated in accordance with 2.2.7.2.2.2 (a) and 2.2.7.2.2.3 to 2.2.7.2.2.6. For natural materials and ores containing naturally occurring radionuclides that are not in secular equilibrium the calculation of the activity concentration shall be performed in accordance with 2.2.7.2.2.4;

(g) Non-radioactive solid objects with radioactive substances present on any surfaces in quantities not in excess of the limit set out in the definition for "contamination" in 2.2.7.1.2.

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

1.7.1.5.1 Excepted packages which may contain radioactive material in limited quantities, instruments, manufactured articles or empty packagings as specified in 2.2.7.2.4.1 shall be subject only to the following provisions of Parts 5 to 7:

(a) The applicable provisions specified in 5.1.2.1, 5.1.3.2, 5.1.5.2.2, 5.1.5.2.3, 5.1.5.4, 5.2.1.10, 5.4.1.2.5.1 (f) (i) and (ii), 5.4.1.2.5.1 (i), 7.1.4.14.7.3.1, 7.1.4.14.7.4.3, 7.1.4.14.7.5.1 to 7.1.4.14.7.5.4 and 7.1.4.14.7.7; and

(b) The requirements for excepted packages specified in 6.4.4 of ADR;

except when the radioactive material possesses other hazardous properties and has to be classified in a class other than Class 7 in accordance with special provision 290 or 369 of Chapter 3.3, where the provisions listed in (a) and (b) above apply only as relevant and in addition to those relating to the main class.

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

1.7.2 **Radiation protection programme**

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

1.7.2.2 Doses to persons shall be below the relevant dose limits. Protection and safety shall be optimized in order that the magnitude of individual doses, the number of persons exposed and the likelihood of incurring exposure shall be kept as low as reasonably achievable, economic and social factors being taken into account within the restriction that the doses to individuals be subject to dose constraints. A structured and systematic approach shall be adopted and shall include consideration of the interfaces between carriage and other activities.

1.7.2.3 The nature and extent of the measures to be employed in the programme shall be related to the magnitude and likelihood of radiation exposures. The programme shall incorporate the requirements in 1.7.2.2, 1.7.2.4, 1.7.2.5 and 7.5.11 CV33 (1.1) of ADR. Programme documents shall be available, on request, for inspection by the relevant competent authority.

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

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

(b) is likely to exceed 6 mSv in a year, individual monitoring shall be conducted.

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

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

1.7.2.5 Workers (see 7.1.4.14.7, NOTE 3) shall be appropriately trained in radiation protection including the precautions to be observed in order to restrict their occupational exposure and the exposure of other people who might be affected by their actions.

1.7.3 Management system

1.7.3.1 A management system based on international, national or other standards acceptable to the competent authority shall be established and implemented for all activities within the scope of ADN, as identified in 1.7.1.3, to ensure compliance with the relevant provisions of ADN. Certification that the design specification has been fully implemented shall be available to the competent authority. The manufacturer, consignor or user shall be prepared:

(a) To provide facilities for inspection during manufacture and use; and

(b) To demonstrate compliance with ADN to the competent authority.

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

1.7.4 Special arrangement

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

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

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

1.7.5 Radioactive material possessing other dangerous properties

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

1.7.6 Non-compliance

1.7.6.1 In the event of non-compliance with any limit in ADN applicable to dose rate or contamination,

(a) The consignor, carrier, consignee and any organization involved during carriage who may be affected, as appropriate, shall be informed of the non-compliance by:

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

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

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

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

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

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

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

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

CHAPTER 1.8

CHECKS AND OTHER SUPPORT MEASURES TO ENSURE COMPLIANCE WITH SAFETY REQUIREMENTS

1.8.1 Monitoring compliance with requirements

1.8.1.1 *General*

1.8.1.1.1 In accordance with Article 4, paragraph 3 of ADN, Contracting Parties shall ensure that a representative proportion of consignments of dangerous goods carried by inland waterways is subject to monitoring in accordance with the provisions of this Chapter, and including the requirements of 1.10.1.5.

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

1.8.1.2 *Monitoring procedure*

1.8.1.2.1 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.

1.8.1.2.2 The checks shall be random and shall as far as possible cover an extensive portion of the inland waterway network.

1.8.1.2.3 When exercising the right to monitor, the authorities shall make all possible efforts to avoid unduly detaining or delaying a vessel.

1.8.1.2.4 Checklists used by the authorities of Contracting Parties shall be drawn up at least in the language of the issuing country and also, if that language is not French, English or German, in French, English or German.[1]

1.8.1.3 *Infringements of the requirements*

Without prejudice to other penalties which may be imposed, vessels in respect of which one or more infringements of the rules on the transport of dangerous goods by inland waterways are established may be detained at a place designated for this purpose by the authorities carrying out the check and required to be brought into conformity before continuing their journey or may be subject to other appropriate measures, depending on the circumstances or the requirements of safety.

1.8.1.4 *Checks in companies and at places of loading and unloading*

1.8.1.4.1 Checks may be carried out at the premises of undertakings, as a preventive measure or where infringements which jeopardize safety in the transport of dangerous goods have been recorded during the voyage.

---

* *Note by the secretariat: The model of the checklist can be found on the United Nations Economic Commission for Europe website (https://unece.org/standardized-model-checklists).*

1 *The checklist is not included in the documents to be kept on board according to 8.1.2.1.*

1.8.1.4.2 The purpose of such checks shall be to ensure that safety conditions for the transport of dangerous goods by inland waterways comply with the relevant laws.

1.8.1.4.3 *Sampling*

Where appropriate and provided that this does not constitute a safety hazard, samples of the goods transported may be taken for examination by laboratories recognized by the competent authority.

1.8.1.4.4 *Cooperation of the competent authorities*

1.8.1.4.4.1 Contracting Parties shall assist one another in order to give proper effect to these requirements.

1.8.1.4.4.2 Serious or repeated infringements jeopardizing the safety of the transport of dangerous goods committed by a foreign vessel or undertaking shall be reported to the competent authority in the Contracting Party where the certificate of approval of the vessel was issued or where the undertaking is established.

1.8.1.4.4.3 The competent authority of the Contracting Party where serious or repeated infringements have been recorded may ask the competent authority of the Contracting Party where the certificate of approval of the vessel was issued or where the undertaking is established for appropriate measures to be taken with regard to the offender or offenders.

1.8.1.4.4.4 The latter competent authority shall notify the competent authorities of the Contracting Party where the infringements were recorded of any measures taken with regard to the offender or offenders.

1.8.2 Administrative assistance during the checking of a foreign vessel

If the findings of a check on a foreign vessel give grounds for believing that serious or repeated infringements have been committed which cannot be detected in the course of that check in the absence of the necessary data, the competent authorities of the Contracting Parties concerned shall assist one another in order to clarify the situation.

1.8.3 Safety adviser

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

NOTE: *This obligation does not apply to reception facility operators.*

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

(a) *(Reserved)*;

(b) the activities of which concern:

(i) The carriage of dangerous goods fully or partially exempted according to the provisions of 1.7.1.4 or of chapters 3.3, 3.4 or 3.5;

(ii) Quantities per transport unit, wagon or container not exceeding those referred to in 1.1.3.6 of ADR or RID;

(iii) When (ii) above is not relevant, quantities per vessel not exceeding those referred to in 1.1.3.6 of these Regulations.

(c) the main or secondary activities of which are not the consignment, carriage or the related packing, filling, loading or unloading of dangerous goods but which occasionally engage in the national consignment, carriage or the related packing, filling, loading or unloading of dangerous goods posing little danger or risk of pollution.

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

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

– monitoring compliance with the requirements governing the carriage of dangerous goods;

– advising his undertaking on the carriage of dangerous goods;

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

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

– the procedures for compliance with the requirements governing the identification of dangerous goods being transported;

– the undertaking's practice in taking account, when purchasing means of transport, of any special requirements in connection with the dangerous goods being transported;

– the procedures for checking the equipment used in connection with the carriage, packing, filling, loading or unloading of dangerous goods;

– the proper training of the undertaking's employees, including on the changes to the Regulations, and the maintenance of records of such training;

– the implementation of proper emergency procedures in the event of any accident or incident that may affect safety during the carriage, packing, filling, loading or unloading of dangerous goods;

– investigating and, where appropriate, preparing reports on serious accidents, incidents or serious infringements recorded during the carriage, packing, filling, loading or unloading of dangerous goods;

– the implementation of appropriate measures to avoid the recurrence of accidents, incidents or serious infringements;

– the account taken of the legal prescriptions and special requirements associated with the carriage of dangerous goods in the choice and use of sub-contractors or third parties;

– verification that employees involved in the consigning, carriage, packing, filling, loading or unloading of dangerous goods have detailed operational procedures and instructions,

– the introduction of measures to increase awareness of the risks inherent in the carriage, packing, filling, loading and unloading of dangerous goods;

– the implementation of verification procedures to ensure the presence on board means of transport of the documents and safety equipment which must accompany transport and the compliance of such documents and equipment with the regulations;

– the implementation of verification procedures to ensure compliance with the requirements governing packing, filling, loading and unloading;

– the existence of the security plan indicated in 1.10.3.2.

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

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

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

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

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

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

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

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

– competence of the examining body;

– specifications of the form of the examinations the examining body is proposing, including, if necessary, the infrastructure and organisation of electronic examinations in accordance with 1.8.3.12.5, if these are to be carried out;

– measures intended to ensure that examinations are impartial;

– independence of the body from all natural or legal persons employing safety advisers.

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

(a) Knowledge of the types of consequences which may be caused by an accident involving dangerous goods and knowledge of the main causes of accidents;

(b) Requirements under national law, international conventions and agreements, with regard to the following in particular:

- classification of dangerous goods (procedure for classifying solutions and mixtures, structure of the list of substances, classes of dangerous goods and principles for their classification, nature of dangerous goods transported, physical, chemical and toxicological properties of dangerous goods);
- general packing provisions and provisions for tanks (types, code, marking, construction, initial and periodic inspection and testing);
- marking and labelling, placarding and orange-coloured plate marking (marking and labelling of packages, placing and removal of placards and orange-coloured plates);
- particulars in transport documents (information required);
- method of consignment and restrictions on dispatch (full load, carriage in bulk, carriage in intermediate bulk containers, carriage in containers, carriage in tanks);
- transport of passengers;
- prohibitions and precautions relating to mixed loading;
- segregation of goods;
- limitation of the quantities carried and quantities exempted;
- handling and stowage (packing, filling – degree of filling or filling ratio, as appropriate – loading and unloading, stowage and segregation);
- cleaning and/or degassing before packing, filling, loading and after unloading;
- crews, vocational training;
- vehicle documents (transport documents, instructions in writing, vessel approval certificate, ADN dangerous goods training certificate, copies of any derogations, other documents);
- instructions in writing (implementation of the instructions and crew protection equipment);
- supervision requirements (berthing);
- traffic regulations and restrictions;
- operational discharges or accidental leaks of pollutants;
- requirements relating to equipment for transport (vessel).

1.8.3.12 ***Examinations***

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

1.8.3.12.2 The competent authority or an examining body designated by the competent authority shall invigilate every examination. Any manipulation and deception shall be ruled out as far as possible. Authentication of the candidate shall be ensured. The use in the written test of documentation other than international or national regulations is not permitted. All examination documents shall be recorded and kept as a print-out or electronically as a file.

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

1.8.3.12.4 The written test shall consist of two parts:

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

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

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

1.8.3.12.5 Written examinations may be performed, in whole or in part, as electronic examinations, where the answers are recorded and evaluated using electronic data processing (EDP) processes, provided the following conditions are met:

(a) The hardware and software shall be checked and accepted by the competent authority or by an examining body designated by the competent authority;

(b) Proper technical functioning shall be ensured. Arrangements as to whether and how the examination can be continued shall be made for a failure of the devices and applications. No aids shall be available on the input devices (e.g. electronic search function), the equipment provided according to 1.8.3.12.3 shall not allow the candidates to communicate with any other device during the examination;

(c) Final inputs of each candidate shall be logged. The determination of the results shall be transparent.

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

– Class 1;

– Class 2;

– Class 7;

– Classes 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 and 9;

– UN Nos. 1202, 1203, 1223, 3475, and aviation fuel classified under UN Nos. 1268 or 1863.

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

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

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

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

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

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

1.8.3.17 *(Deleted)*

1.8.3.18 ***Form of certificate***

Certificate of training as safety adviser for the transport of dangerous goods

Certificate No: .....

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

Surname: .....

Forename(s): .....

Date and place of birth: .....

Nationality: .....

Signature of holder: .....

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

☐ by road ☐ by rail ☐ by inland waterway

Issued by: .....

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

1.8.3.19 ***Extension of the certificate***

Where an adviser extends the scope of his certificate during its period of validity by meeting the requirements of 1.8.3.16.2, the period of validity of a new certificate shall remain that of the previous certificate.

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

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

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

1.8.5 **Notifications of occurrences involving dangerous goods**

1.8.5.1 If a serious accident or incident takes place during loading, filling, carriage or unloading of dangerous goods, or during degassing of tank vessels on the territory of a Contracting Party, the loader, filler, carrier, unloader, consignee or reception facility operator, respectively, shall ascertain that a report conforming to the model prescribed in 1.8.5.4 is made to the competent authority of the Contracting Party concerned at the latest one month after the occurrence.

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

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

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

(a) requires intensive medical treatment,

(b) requires a stay in hospital of at least one day, or

(c) results in the inability to work for at least three consecutive days.

Loss of product means the release of dangerous goods of:

(a) Classes 1 or 2 or packing group I or other substances not assigned to a packing group in quantities of 50 kg or 50 litres or more;

(b) Packing group II in quantities of 333 kg or 333 litres or more; or

(c) Packing group III in quantities of 1,000 kg or 1,000 litres or more.

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

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

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

(a) Any release of radioactive material from the packages;

(b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against ionizing radiation ("Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards", IAEA Safety Standards Series No. GSR Part 3, IAEA, Vienna (2014)); or

(c) Where there is reason to believe that there has been a significant degradation in any package safety function (containment, shielding, thermal protection or criticality) that may have rendered the package unsuitable for continued carriage without additional safety measures.

NOTE: *See the provisions of 7.1.4.14.7.7 for undeliverable consignments.*

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

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

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

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

Report on occurrences during the carriage of dangerous goods in accordance with ADN, section 1.8.5

Report No.:

Carrier/Filler/Consignee/Loader: .....

Official number of vessel: .....

Dry cargo vessel (single-hull, double-hull): .....

Tank vessel (type): .....

Address:

Contact name: ..... Telephone: .....

Fax/e-mail: .....

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

1. Mode

Inland waterway ……	Official number of vessel/name of vessel (optional) …….. .....

2. Date and location of occurrence

Year: ..... Month: ..... Day: ..... Time:
.....

□ Port □ Loading/unloading/transhipment facility Location/Country: ..... or □ Free sector Name of sector: ..... Kilometre point: ..... or □ Structure such as bridge or guide wall	Comments concerning description of location: .... Location/Country : ....

3. Conditions of inland waterway

Water level (reference gauge):
.....
Estimated speed through water:
.....
□ High water
□ Low water

4. Particular weather conditions

□ Rain
□ Snow
□ Fog
□ Thunderstorm
□ Storm
Temperature: .....°C

5. Description of occurrence

□ Collision with bank, structure or berthing installation
□ Collision with another cargo vessel (collision/impact)
□ Collision with a passenger vessel (collision/impact)
□ Contact with the waterway bed, whether or not vessel has run aground
□ Fire
□ Explosion
□ Leak/Location and extent of damage (with additional description)
□ Shipwreck
□ Capsizing
□ Technical fault (optional)
□ Human error (optional)
Additional description of occurrence:
.....
.....
.....
.....

6. Dangerous goods involved

UN Number[1] or Identification number	Class	Packing group if known	Estimated quantity of loss of products (kg or l)[2]	Means of containment in accordance with ADN, 1.2.1[3]	Means of containment material	Type of failure of means of containment[4]

[1] For dangerous goods assigned to collective entries to which special provision 274 applies, also the technical name shall be indicated.

[2] For class 7, indicate values according to the criteria in 1.8.5.3.

(3) Indicate the appropriate number: 1 Packaging 2 IBC 3 Large packaging 4 Small container 5 Wagon 6 Vehicle 7 Tank-wagon 8 Tank-vehicle 9 Battery-wagon 10 Battery-vehicle 11 Wagon with demountable tanks 12 Demountable tank 13 Large container 14 Tank container 15 MEGC 16 Portable tank 17 MEMU 18 Extra-large tank-container 19 Dry cargo vessel (single-hull, double-hull) 20 Tank vessel (type)	(4) Indicate the appropriate number: 1 Loss 2 Fire 3 Explosion 4 Structural failure

7. Cause of occurrence (if clearly known) (optional)

□ Technical fault
□ Faulty load securing
□ Operational cause
□ Other:

.....

.....

.....

.....

8. Consequences of occurrence

Personal injury in connection with the dangerous goods involved:

□ Deaths (number: .....)
□ Injured (number: .....)

Loss of product:

□ Yes
□ No
□ Imminent risk of loss of product

Material/Environment damage:

□ Estimated level of damage ≤ 50 000 Euros
□ Estimated level of damage > 50 000 Euros

Involvement of authorities:

□ Yes
- □ Evacuation of persons for a duration of at least three hours caused by the dangerous goods involved
- □ Closure of public traffic routes for a duration of at least three hours caused by the dangerous goods involved

□ No

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