

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

**including the Annexed Regulations, applicable as from
1 January 2025**

Volume I

United Nations Economic Commission for Europe (UNECE)

The United Nations Economic Commission for Europe (UNECE) is one of the five United Nations regional commissions, administered by the Economic and Social Council (ECOSOC). It was established in 1947 with the mandate to help rebuild post-war Europe, develop economic activity and strengthen economic relations among European countries, and between Europe and the rest of the world. During the Cold War, UNECE served as a unique forum for economic dialogue and cooperation between East and West. Despite the complexity of this period, significant achievements were made, with consensus reached on numerous harmonization and standardization agreements.

In the post-Cold War era, UNECE acquired not only many new member States, but also new functions. Since the early 1990s the organization has focused on assisting the countries of Central and Eastern Europe, Caucasus and Central Asia with their transition process and their integration into the global economy.

Today, UNECE supports its 56 member States in Europe, Central Asia and North America in the implementation of the 2030 Agenda for Sustainable Development with its Sustainable Development Goals (SDGs). UNECE provides a multilateral platform for policy dialogue, the development of international legal instruments, norms and standards, the exchange of best practices and economic and technical expertise, as well as technical cooperation for countries with economies in transition.

Offering practical tools to improve people's everyday lives in the areas of environment, transport, trade, statistics, energy, forestry, housing, and land management, many of the norms, standards and conventions developed in UNECE are used worldwide, and a number of countries from outside the region participate in UNECE's work.

UNECE's multisectoral approach helps countries to tackle the interconnected challenges of sustainable development in an integrated manner, with a transboundary focus that helps devise solutions to shared challenges. With its unique convening power, UNECE fosters cooperation among all stakeholders at the country and regional levels.

UNECE is the forum where the countries of western, central and eastern Europe, Central Asia and North America – 56 countries in all – come together to forge the tools of their cooperation. That cooperation concerns economic cooperation and integration, statistics, environment, transport, trade, sustainable energy, forestry and timber, housing and land management and population. The Commission offers a regional framework for the elaboration and harmonization of conventions, norms and standards. The Commission's experts provide technical assistance to the countries of South-East Europe and the Commonwealth of Independent States. This assistance takes the form of advisory services, training seminars and workshops where countries can share their experiences and best practices.

Transport in UNECE

The UNECE Sustainable Transport Division is the secretariat of the Inland Transport Committee (ITC) and the ECOSOC Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals. The ITC and its 17 working parties, as well as the ECOSOC Committee and its sub-committees are intergovernmental decision-making bodies that work to improve the daily lives of people and businesses around the world, in measurable ways and with concrete actions, to enhance traffic safety, environmental performance, energy efficiency and the competitiveness of the transport sector.

The ECOSOC Committee was set up in 1953 by the Secretary-General of the United Nations at the request of the Economic and Social Council to elaborate recommendations on the transport of dangerous goods. Its mandate was extended to the global (multi-sectoral) harmonization of systems of classification and labelling of chemicals in 1999. It is composed of experts from countries which possess the relevant expertise and experience in the international trade and transport of dangerous goods and chemicals. Its membership is restricted in order to reflect a proper geographical balance between all regions of the world and to ensure adequate participation of developing countries. Although the Committee is a subsidiary body of ECOSOC, the Secretary-General decided in 1963 that the secretariat services would be provided by the UNECE Transport Division.

ITC is a unique intergovernmental forum that was set up in 1947 to support the reconstruction of transport connections in post-war Europe. Over the years, it has specialized in facilitating the harmonized and sustainable development of inland modes of transport. The main results of this persevering and ongoing work are reflected, among other things, (i) in 59 United Nations conventions and many more technical regulations, which are updated on a regular basis and provide an international legal framework for the sustainable development of national and international road, rail, inland water and intermodal transport, including the transport of dangerous goods, as well as the construction and inspection of road motor vehicles; (ii) in the Trans-European North-south Motorway, Trans-European Railway and the Euro-Asia Transport Links projects, that facilitate multi-country coordination of transport infrastructure investment programmes; (iii) in the TIR system, which is a global customs transit facilitation solution; (iv) in the tool called For Future Inland Transport Systems (ForFITS), which can assist national and local governments to monitor carbon dioxide (CO₂) emissions coming from inland transport modes and to select and design climate change mitigation policies, based on their impact and adapted to local conditions; (v) in transport statistics – methods and data – that are internationally agreed on; (vi) in studies and reports that help transport policy development by addressing timely issues, based on cutting-edge research and analysis. ITC also devotes special attention to Intelligent Transport Services (ITS), sustainable urban mobility and city logistics, as well as to increasing the resilience of transport networks and services in response to climate change adaptation and security challenges.

In addition, the UNECE Sustainable Transport and Environment Divisions, together with the World Health Organization (WHO) – Europe, co-service the Transport Health and Environment Pan-European Programme (THE PEP).

INTRODUCTION

The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) done at Geneva on 26 May 2000 under the auspices of the United Nations Economic Commission for Europe (UNECE) and the Central Commission for the Navigation of the Rhine (CCNR) entered into force on 28 February 2008.

The Agreement itself and the annexed Regulations, in their original version, were published in 2001 under the symbol ECE/TRANS/150. That publication also contains the Final Act of the Diplomatic Conference held in Geneva from 22 to 26 May 2000 during which the Agreement was adopted as well as the text of a Resolution adopted by the Conference.

At the time of the preparation of the present publication, the Agreement had eighteen Contracting Parties: Austria, Belgium, Bulgaria, Croatia, Czechia, France, Germany, Hungary, Luxembourg, Netherlands (Kingdom of the), Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Switzerland and Ukraine. Other member States of UNECE whose territory contains inland waterways, other than those forming a coastal route, may also become Contracting Parties to the Agreement by acceding to it, on condition that the inland waterways are part of the network of inland waterways of international importance as defined in the European Agreement on Main Inland Waterways of International Importance (AGN).

The Regulations annexed to the ADN contain provisions concerning dangerous substances and articles, provisions concerning their carriage in packages and in bulk on board inland navigation vessels or tank vessels, as well as provisions concerning the construction and operation of such vessels. They also address requirements and procedures for inspections, the issue of certificates of approval, recognition of classification societies, monitoring, and training and examination of experts.

With the exception of the provisions relating to the recognition of classification societies, which have been applicable since the entry into force of the Agreement, the annexed Regulations did not become applicable until twelve months after the entry into force of the Agreement, namely on 28 February 2009 (see Article 11 (1) of the Agreement).

Before the entry into force of the Agreement, updates of the annexed Regulations were carried out regularly by a Joint Meeting of Experts of the UNECE and CCNR. These updates were adopted by the Administrative Committee of the ADN at its first session which was held in Geneva on 19 June 2008 (see document ECE/ADN/2, paragraphs 13 to 16).

Subsequently, the secretariat has published consolidated versions under the symbol ECE/TRANS/203 ("ADN 2009"), ECE/TRANS/220 ("ADN 2011"), ECE/TRANS/231 ("ADN 2013"), ECE/TRANS/243 ("ADN 2015"), ECE/TRANS/258 ("ADN 2017"), ECE/TRANS/276 ("ADN 2019"), ECE/TRANS/301 ("ADN 2021") and ECE/TRANS/325 ("ADN 2023").

At its thirty-first session (Geneva, 26 January 2024), the ADN Administrative Committee requested the secretariat to publish a new consolidated edition of ADN ("ADN 2025") incorporating all agreed corrections and amendments to enter into force on 1 January 2025. The amendments and corrections can be found in the following documents: ECE/ADN/70, ECE/ADN/70/Corr.1, ECE/ADN/70/Add.1, ECE/ADN/70/Add.1/Corr.1, ECE/TRANS/WP.15/AC.2/84, annexes II and III, ECE/TRANS/WP.15/AC.2/86, annexes I and III, ECE/TRANS/WP.15/AC.2/88, annexes II and III.

The annexed Regulations contained in the present publication are the consolidated version which takes account of these updates and which is applicable from 1 January 2025.

It should be noted that, according to Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, as amended, member States of the European Union, have to, with the exclusion of the derogations provided for in Article 1, paragraph 3 of the Directive, apply these annexed Regulations as well as Article 3 (f) and (h) and Article 8, paragraphs 1 and 3 of the ADN to the national and international transport between member States of dangerous goods by inland waterways on their territory.

All requests for information relating to the application of the ADN should be addressed to the relevant competent authority.

Additional information can be found on the website of the UNECE Sustainable Transport Division at the following address:

<https://unece.org/about-adn>

This site, updated on a continuous basis, contains links to the following information:

- ADN Agreement (excluding the annexed Regulations);
- Corrections to the ADN Agreement (excluding the annexed Regulations);
- Status of the Agreement;
- Depositary notifications;
- Country information (competent authorities, notifications);
- Multilateral agreements;
- Special authorizations;
- Equivalences and derogations;
- Classification societies;
- Accident reports;
- Catalogue of questions;
- Harmonized model checklists;
- Publication details (Corrigenda);
- ADN 2025 (files);
- Amendments to ADN 2023;
- ADN 2023 (files);
- Previous versions of ADN;
- Historical information.

TABLE OF CONTENTS

VOLUME I

	Page
EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS (ADN).....	xiii
ANNEXED REGULATIONS	1
PART 1 GENERAL PROVISIONS.....	3
Chapter 1.1 Scope and applicability	
1.1.1 Structure.....	5
1.1.2 Scope.....	5
1.1.3 Exemptions	6
1.1.4 Applicability of other regulations	11
1.1.5 Application of standards	13
Chapter 1.2 Definitions, Units of Measurement and Abbreviations	
1.2.1 Definitions.....	15
1.2.2 Units of measurement	57
1.2.3 List of abbreviations	59
Chapter 1.3 Training of persons involved in the carriage of dangerous goods	
1.3.1 Scope and applicability	63
1.3.2 Nature of the training	63
1.3.3 Documentation.....	64
Chapter 1.4 Safety obligations of the participants	
1.4.1 General safety measures	65
1.4.2 Obligations of the main participants	65
1.4.3 Obligations of the other participants.....	67
Chapter 1.5 Special rules, derogations	
1.5.1 Bilateral and multilateral agreements	73
1.5.2 Special authorizations concerning transport in tank vessels.....	73
1.5.3 Equivalents and derogations (Article 7, paragraph 3 of ADN).....	74
Chapter 1.6 Transitional measures	
1.6.1 General.....	75
1.6.2 Pressure receptacles and receptacles for Class 2.....	78
1.6.3 Fixed tanks (tank-vehicles and tank wagons), demountable tanks, battery vehicles and battery wagons	78
1.6.4 Tank-containers, portable tanks and MEGCs	78
1.6.5 Vehicles	78
1.6.6 Class 7	78
1.6.7 Transitional provisions concerning vessels.....	78
1.6.8 Transitional provisions concerning training of the crew.....	106
1.6.9 Transitional provisions concerning recognition of classification societies.....	106

Table of contents (cont'd)

Chapter 1.7	General provisions concerning radioactive material	
1.7.1	Scope and application	107
1.7.2	Radiation protection programme	109
1.7.3	Management system.....	110
1.7.4	Special arrangement.....	110
1.7.5	Radioactive material possessing other dangerous properties.....	110
1.7.6	Non-compliance.....	110
Chapter 1.8	Checks and other support measures to ensure compliance with safety requirements	
1.8.1	Monitoring compliance with requirements	113
1.8.2	Administrative assistance during the checking of a foreign vessel.....	114
1.8.3	Safety adviser.....	114
1.8.4	List of competent authorities and bodies designated by them	121
1.8.5	Notifications of occurrences involving dangerous goods	121
Chapter 1.9	Transport restrictions by the competent authorities	127
Chapter 1.10	Security provisions	
1.10.1	General provisions	129
1.10.2	Security training.....	129
1.10.3	Provisions for high consequence dangerous goods.....	129
Chapters 1.11 to 1.14		
	<i>(Reserved)</i>	
Chapter 1.15	Recognition of classification societies	
1.15.1	General.....	137
1.15.2	Procedure for the recognition of classification societies.....	137
1.15.3	Conditions and criteria for the recognition of a classification society applying for recognition	138
1.15.4	Obligations of recommended classification societies	139
Chapter 1.16	Procedure for the issue of the certificate of approval	
1.16.1	Certificate of approval	141
1.16.2	Issue and recognition of certificates of approval	144
1.16.3	Inspection procedure	145
1.16.4	Inspection body	146
1.16.5	Application for the issue of a certificate of approval	146
1.16.6	Particulars entered in the certificate of approval and amendments thereto	146
1.16.7	Presentation of the vessel for inspection.....	147
1.16.8	First inspection.....	147
1.16.9	Special inspection	147
1.16.10	Periodic inspection and renewal of the certificate of approval	147
1.16.11	Extension of the certificate of approval without an inspection.....	147
1.16.12	Official inspection.....	147
1.16.13	Withdrawal, withholding and return of the certificate of approval	148
1.16.14	Duplicate copy	148
1.16.15	Register of certificates of approval	149
PART 2	CLASSIFICATION	(See Volume II)

Table of contents (cont'd)

PART 3	DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND EXEMPTIONS RELATED TO LIMITED AND EXCEPTED QUANTITIES	153
Chapter 3.1	General.....	(See Volume II)
Chapter 3.2	List of dangerous goods	
3.2.1	Table A: List of dangerous goods in numerical order	(See Volume II)
3.2.2	Table B: List of dangerous goods in alphabetical order	(See Volume II)
3.2.3	Table C: List of dangerous goods accepted for carriage in tank vessels in numerical order	157
3.2.4	Modalities for the application of section 1.5.2 on special authorizations concerning transport in tank vessels	261
Chapter 3.3	Special provisions applicable to certain articles or substances	(See Volume II)
Chapter 3.4	Dangerous goods packed in limited quantities	(See Volume II)
Chapter 3.5	Dangerous goods packed in excepted quantities	(See Volume II)
PART 4	PROVISIONS CONCERNING THE USE OF PACKAGINGS, TANKS AND BULK CARGO TRANSPORT UNITS.....	277
Chapter 4.1	General provisions	279
PART 5	CONSIGNMENT PROCEDURES	281
Chapter 5.1	General provisions	
5.1.1	Application and general provisions.....	283
5.1.2	Use of overpacks.....	283
5.1.3	Empty uncleared packagings (including IBCs and large packagings), tanks, MEMUs, vehicles, wagons and containers for carriage in bulk	283
5.1.4	Mixed packing	284
5.1.5	General provisions for Class 7	284
Chapter 5.2	Marking and labelling	
5.2.1	Marking of packages.....	293
5.2.2	Labelling of packages	298
Chapter 5.3	Placarding and marking of containers, bulk containers, MEGCs, MEMUs, tank-containers, portable tanks, vehicles and wagons	
5.3.1	Placarding	309
5.3.2	Orange-coloured plate marking	313
5.3.3	Mark for elevated temperature substances	319
5.3.4	Marking for carriage in a transport chain including maritime transport.....	320
5.3.5	(Reserved)	321
5.3.6	Environmentally hazardous substance mark.....	321

Table of contents (cont'd)

Chapter	5.4	Documentation	
5.4.0	General	323	
5.4.1	Dangerous goods transport document and related information	323	
5.4.2	Container/vehicle packing certificate	337	
5.4.3	Instructions in writing	337	
5.4.4	Retention of dangerous goods transport information	343	
5.4.5	Example of a multimodal dangerous goods form	343	
Chapter	5.5	Special provisions	
5.5.1	<i>(Deleted)</i>	347	
5.5.2	Special provisions applicable to fumigated cargo transport units (UN 3359)	347	
5.5.3	Special provisions applicable to the carriage of dry ice (UN 1845) and to packages and vehicles and containers containing substances presenting a risk of asphyxiation when used for cooling or conditioning purposes (such as dry ice (UN 1845) or nitrogen, refrigerated liquid (UN 1977) or argon, refrigerated liquid (UN 1951) or nitrogen)	349	
5.5.4	Dangerous goods contained in equipment in use or intended for use during carriage, attached to or placed in packages, overpacks, containers or load compartments	352	
PART 6	REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS, INTERMEDIATE BULK CONTAINERS (IBCS), LARGE PACKAGINGS, TANKS AND BULK CONTAINERS		353
Chapter	6.1	General requirements	355
PART 7	REQUIREMENTS CONCERNING LOADING, CARRIAGE, UNLOADING AND HANDLING OF CARGO		357
Chapter	7.1	Dry cargo vessels	
7.1.0	General requirements	359	
7.1.1	Mode of carriage of goods	359	
7.1.2	Requirements applicable to vessels	360	
7.1.3	General service requirements	361	
7.1.4	Additional requirements concerning loading, carriage, unloading and other handling of the cargo	365	
7.1.5	Additional requirements concerning the operation of vessels	386	
7.1.6	Additional requirements	388	
7.1.7	Special provisions applicable to the carriage of self-reactive substances of Class 4.1, organic peroxides of Class 5.2 and substances stabilized by temperature control (other than self-reactive substances and organic peroxides)	392	
Chapter	7.2	Tank vessels	
7.2.0	General requirements	397	
7.2.1	Mode of carriage of goods	397	
7.2.2	Requirements applicable to vessels	398	
7.2.3	General service requirements	400	
7.2.4	Additional requirements concerning loading, carriage, unloading and other handling of cargo	409	
7.2.5	Additional requirements concerning the operation of vessels	423	

Table of contents (cont'd)

PART 8	PROVISIONS FOR VESSEL CREWS, EQUIPMENT, OPERATION AND DOCUMENTATION.....	425
Chapter 8.1	General requirements applicable to vessels and equipment	
8.1.1	(Reserved)	427
8.1.2	Documents	427
8.1.3	(Reserved)	431
8.1.4	Fire-extinguishing arrangements.....	431
8.1.5	Special equipment.....	431
8.1.6	Checking and inspection of equipment	432
8.1.7	Installations, equipment and autonomous protection systems	433
8.1.8	Inspection of the cargo pump rooms of tank vessels	434
8.1.9	(Deleted)	434
8.1.10	(Deleted)	434
8.1.11	Register of operations during carriage relating to the carriage of UN 1203	434
Chapter 8.2	Requirements concerning training	
8.2.1	General requirements concerning training of experts	435
8.2.2	Special requirements for the training of experts	436
Chapter 8.3	Miscellaneous requirements to be complied with by the crew of the vessel	
8.3.1	Persons authorized on board	449
8.3.2	Portable lighting apparatus	449
8.3.3	Admittance on board.....	449
8.3.4	Prohibition on smoking, fire and naked light.....	449
8.3.5	Work on board	450
Chapter 8.4	(Reserved)	451
Chapter 8.5	(Reserved)	453
Chapter 8.6	Documents	
8.6.1	Certificate of approval	455
8.6.2	Certificate of special knowledge of ADN according to 8.2.1.2, 8.2.1.5 or 8.2.1.7	466
8.6.3	ADN Checklist.....	467
8.6.4	Checklist degassing to reception facilities	472
PART 9	RULES FOR CONSTRUCTION	477
Chapter 9.1	Rules for construction of dry cargo vessels	
9.1.0	Rules for construction applicable to dry cargo vessels	479
Chapter 9.2	Rules for construction applicable to seagoing vessels which comply with the requirements of the SOLAS 74 Convention, Chapter II-2, Regulation 19 or SOLAS 74, Chapter II-2, Regulation 54	499
Chapter 9.3	Rules for construction of tank vessels	
9.3.1	Rules for construction of type G tank vessels.....	505
9.3.2	Rules for construction of type C tank vessels	541
9.3.3	Rules for construction of type N tank vessels.....	583
9.3.4	Alternative constructions	624

**EUROPEAN AGREEMENT CONCERNING THE
INTERNATIONAL CARRIAGE OF DANGEROUS GOODS
BY INLAND WATERWAYS (ADN)**

THE CONTRACTING PARTIES,

DESIRING to establish by joint agreement uniform principles and rules, for the purposes of:

- (a) increasing the safety of international carriage of dangerous goods by inland waterways;
- (b) contributing effectively to the protection of the environment, by preventing any pollution resulting from accidents or incidents during such carriage; and
- (c) facilitating transport operations and promoting international trade,

CONSIDERING that the best means of achieving this goal is to conclude an agreement to replace the "European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterways" annexed to resolution No. 223 of the Inland Transport Committee of the Economic Commission for Europe, as amended,

HAVE AGREED as follows:

CHAPTER I

GENERAL PROVISIONS

Article 1

Scope

1. This Agreement shall apply to the international carriage of dangerous goods by vessels on inland waterways.
2. This Agreement shall not apply to the carriage of dangerous goods by seagoing vessels on maritime waterways forming part of inland waterways.
3. This Agreement shall not apply to the carriage of dangerous goods by warships or auxiliary warships or to other vessels belonging to or operated by a State, provided such vessels are used by the State exclusively for governmental and non-commercial purposes. However, each Contracting Party shall, by taking appropriate measures which do not impair the operations or operational capacity of such vessels belonging to or operated by it, ensure that such vessels are operated in a manner compatible with this Agreement, where it is reasonable in practice to do so.

Article 2

Regulations annexed to the Agreement

1. The Regulations annexed to this Agreement shall form an integral part thereof. Any reference to this Agreement implies at the same time a reference to the Regulations annexed thereto.
2. The annexed Regulations include:
 - (a) Provisions concerning the international carriage of dangerous goods by inland waterways;
 - (b) Requirements and procedures concerning inspections, the issue of certificates of approval, recognition of classification societies, derogations, special authorizations, monitoring, training and examination of experts;
 - (c) General transitional provisions;
 - (d) Supplementary transitional provisions applicable to specific inland waterways.

Article 3

Definitions

For the purposes of this Agreement:

- (a) "*vessel*" means an inland waterway or seagoing vessel;
- (b) "*dangerous goods*" means substances and articles the international carriage of which is prohibited by, or authorized only on certain conditions by, the annexed Regulations;
- (c) "*international carriage of dangerous goods*" means any carriage of dangerous goods performed by a vessel on inland waterways on the territory of at least two Contracting Parties;
- (d) "*inland waterways*" means the navigable inland waterways including maritime waterways on the territory of a Contracting Party open to the navigation of vessels under national law;
- (e) "*maritime waterways*" means inland waterways linked to the sea, basically used for the traffic of seagoing vessels and designated as such under national law;
- (f) "*recognized classification society*" means a classification society which is in conformity with the annexed Regulations and recognized, in accordance with the procedures laid down in these Regulations, by the competent authority of the Contracting Party where the certificate is issued;
- (g) "*competent authority*" means the authority or the body designated or recognized as such in each Contracting Party and in each specific case in connection with these provisions;
- (h) "*inspection body*" means a body nominated or recognized by the Contracting Party for the purpose of inspecting vessels according to the procedures laid down in the annexed Regulations.

CHAPTER II

TECHNICAL PROVISIONS

Article 4

Prohibitions on carriage, conditions of carriage, monitoring

1. Subject to the provisions of Articles 7 and 8, dangerous goods barred from carriage by the annexed Regulations shall not be accepted for international carriage.
2. Without prejudice to the provisions of Article 6, the international carriage of other dangerous goods shall be authorized, subject to compliance with the conditions laid down in the annexed Regulations.
3. Observance of the prohibitions and the conditions referred to in paragraphs 1 and 2 shall be monitored by the Contracting Parties in accordance with the provisions laid down in the annexed Regulations.

Article 5

Exemptions

This Agreement shall not apply to the carriage of dangerous goods to the extent to which such carriage is exempted in accordance with the annexed Regulations. Exemptions may only be granted when the quantity of the goods exempted, or the nature of the transport operation exempted, or the packagings, ensure that transport is carried out safely.

Article 6

Sovereign right of States

Each Contracting Party shall retain the right to regulate or prohibit the entry of dangerous goods into its territory for reasons other than safety during carriage.

Article 7

Special regulations, derogations

1. The Contracting Parties shall retain the right to arrange, for a limited period established in the annexed Regulations, by special bilateral or multilateral agreements, and provided safety is not impaired:
 - (a) that the dangerous goods which under this Agreement are barred from international carriage may, subject to certain conditions, be accepted for international carriage on their inland waterways; or
 - (b) that dangerous goods which under this Agreement are accepted for international carriage only on specified conditions may alternatively be accepted for international carriage on their inland waterways under conditions different from those laid down in the annexed Regulations.

The special bilateral or multilateral agreements referred to in this paragraph shall be communicated immediately to the Executive Secretary of the Economic Commission for Europe, who shall communicate them to the Contracting Parties which are not signatories to the said agreements.

2. Each Contracting Party shall retain the right to issue special authorizations for the international carriage in tank vessels of dangerous substances the carriage of which in tank vessels is not permitted under the provisions concerning carriage in the annexed Regulations, subject to compliance with the procedures relating to special authorizations in the annexed Regulations.
3. The Contracting Parties shall retain the right to authorize, in the following cases, the international carriage of dangerous goods on board vessels which do not comply with conditions established in the annexed Regulations, provided that the procedure established in the annexed Regulations is complied with:
 - (a) The use on a vessel of materials, installations or equipment or the application on a vessel of certain measures concerning construction or certain provisions other than those prescribed in the annexed Regulations;
 - (b) Vessel with technical innovations derogating from the provisions of the annexed Regulations.

Article 8

Transitional provisions

1. Certificates of approval and other documents prepared in accordance with the requirements of the Regulations for the Carriage of Dangerous Goods in the Rhine (ADNR), the Regulations for the Carriage of Dangerous Goods on the Danube (ADN-D) or national regulations based on the European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterways as annexed to resolution No. 223 of the Inland Transport Committee of the Economic Commission for Europe or as amended, applicable at the date of application of the annexed Regulations foreseen in Article 11, paragraph 1, shall remain valid until their expiry date, under the same conditions as those prevailing up to the date of such application, including their recognition by other States. In addition, these certificates shall remain valid for a period of one year from the date of application of the annexed Regulations in the event that they would expire during that period. However, the period of validity shall in no case exceed five years beyond the date of application of the annexed Regulations.
2. Vessels which, at the date of application of the annexed Regulations foreseen in Article 11, paragraph 1, are approved for the carriage of dangerous goods on the territory of a Contracting Party and which conform to the requirements of the annexed Regulations, taking into account where necessary, their general transitional provisions, may obtain an ADN certificate of approval under the procedure laid down in the annexed Regulations.
3. In the case of vessels referred to in paragraph 2 to be used exclusively for carriage on inland waterways where ADNR was not applicable under domestic law prior to the date of application of the annexed Regulations foreseen in Article 11, paragraph 1, the supplementary transitional provisions applicable to specific inland waterways may be applied in addition to the general transitional provisions. Such vessels shall obtain an ADN certificate of approval limited to the inland waterways referred to above, or to a portion thereof.
4. If new provisions are added to the annexed Regulations, the Contracting Parties may include new general transitional provisions. These transitional provisions shall indicate the vessels in question and the period for which they are valid.

Article 9

Applicability of other regulations

The transport operations to which this Agreement applies shall remain subject to local, regional or international regulations applicable in general to the carriage of goods by inland waterways.

CHAPTER III

FINAL PROVISIONS

Article 10

Contracting Parties

1. Member States of the Economic Commission for Europe whose territory contains inland waterways, other than those forming a coastal route, which form part of the network of inland waterways of international importance as defined in the European Agreement on Main Inland Waterways of International Importance (AGN) may become Contracting Parties to this Agreement:
 - (a) by signing it definitively;
 - (b) by depositing an instrument of ratification, acceptance or approval after signing it subject to ratification, acceptance or approval;
 - (c) by depositing an instrument of accession.
2. The Agreement shall be open for signature until 31 May 2001 at the Office of the Executive Secretary of the Economic Commission for Europe, Geneva. Thereafter, it shall be open for accession.
3. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations.

Article 11

Entry into force

1. This Agreement shall enter into force one month after the date on which the number of States mentioned in Article 10, paragraph 1, which have signed it definitively, or have deposited their instruments of ratification, acceptance, approval or accession has reached a total of seven.

However, the annexed Regulations, except provisions concerning recognition of classification societies, shall not apply until twelve months after the entry into force of the Agreement.

2. For any State signing this Agreement definitively or ratifying, accepting, approving or acceding to it after seven of the States referred to in Article 10, paragraph 1, have signed it definitively or have deposited their instruments of ratification, acceptance, approval or accession, this Agreement shall enter into force one month after the said State has signed it definitively or has deposited its instrument of ratification, acceptance, approval or accession.

The annexed Regulations shall become applicable on the same date. In the event that the term referred to in paragraph 1 relating to the application of the annexed Regulations has not expired, the annexed Regulations shall become applicable after expiry of the said term.

Article 12

Denunciation

1. Any Contracting Party may denounce this Agreement by so notifying in writing the Secretary-General of the United Nations.
2. Denunciation shall take effect twelve months after the date of receipt by the Secretary-General of the written notification of denunciation.

Article 13***Termination***

1. If, after the entry into force of this Agreement, the number of Contracting Parties is less than five during twelve consecutive months, this Agreement shall cease to have effect at the end of the said period of twelve months.
2. In the event of the conclusion of a world-wide agreement for the regulation of the multimodal transport of dangerous goods, any provision of this Agreement, with the exception of those pertaining exclusively to inland waterways, the construction and equipment of vessels, carriage in bulk or tankers which is contrary to any provision of the said world-wide agreement shall, from the date on which the latter enters into force, automatically cease to apply to relations between the Parties to this Agreement which become parties to the world-wide agreement, and shall automatically be replaced by the relevant provision of the said world-wide agreement.

Article 14***Declarations***

1. Any State may, at the time of signing this Agreement definitively or of depositing its instrument of ratification, acceptance, approval or accession or at any time thereafter, declare by written notification addressed to the Secretary-General of the United Nations that this Agreement shall extend to all or any of the territories for the international relations of which it is responsible. The Agreement shall extend to the territory or territories named in the notification one month after it is received by the Secretary-General.
2. Any State which has made a declaration under paragraph 1 of this article extending this Agreement to any territory for whose international relations it is responsible may denounce the Agreement in respect of the said territory in accordance with the provisions of Article 12.
3. (a) In addition, any State may, at the time of signing this Agreement definitively or of depositing its instrument of ratification, acceptance, approval or accession or at any time thereafter, declare by written notification addressed to the Secretary-General of the United Nations that this Agreement shall not extend to certain inland waterways on its territory, provided that the waterways in question are not part of the network of inland waterways of international importance as defined in the AGN. If this declaration is made subsequent to the time when the State signs this Agreement definitively or when it deposits its instrument of ratification, acceptance, approval or accession, the Agreement shall cease to have effect on the inland waterways in question one month after this notification is received by the Secretary-General.
(b) However, any State on whose territory there are inland waterways covered by AGN, and which are, at the date of adoption of this Agreement, subject to a mandatory regime under international law concerning the carriage of dangerous goods, may declare that the implementation of this Agreement on these waterways shall be subject to compliance with the procedures set out in the statutes of the said regime. Any declaration of this nature shall be made at the time of signing this Agreement definitively or of depositing its instrument of ratification, acceptance, approval or accession.
4. Any State which has made a declaration under paragraphs 3 (a) or 3 (b) of this article may subsequently declare by means of a written notification to the Secretary-General of the United Nations that this Agreement shall apply to all or part of its inland waterways covered by the declaration made under paragraphs 3 (a) or 3 (b). The Agreement shall apply to the inland waterways mentioned in the notification one month after it is received by the Secretary-General.

Article 15*Disputes*

1. Any dispute between two or more Contracting Parties concerning the interpretation or application of this Agreement shall so far as possible be settled by negotiation between the Parties in dispute.
2. Any dispute which is not settled by direct negotiation may be referred by the Contracting Parties in dispute to the Administrative Committee which shall consider it and make recommendations for its settlement.
3. Any dispute which is not settled in accordance with paragraphs 1 or 2 shall be submitted to arbitration if any one of the Contracting Parties in dispute so requests and shall be referred accordingly to one or more arbitrators selected by agreement between the Parties in dispute. If within three months from the date of the request for arbitration the Parties in dispute are unable to agree on the selection of an arbitrator or arbitrators, any of those Parties may request the Secretary-General of the United Nations to nominate a single arbitrator to whom the dispute shall be referred for decision.
4. The decision of the arbitrator or arbitrators appointed under paragraph 3 of this article shall be binding on the Contracting Parties in dispute.

Article 16*Reservations*

1. Any State may, at the time of signing this Agreement definitively or of depositing its instrument of ratification, acceptance, approval or accession, declare that it does not consider itself bound by Article 15. Other Contracting Parties shall not be bound by Article 15 in respect of any Contracting Party which has entered such a reservation.
2. Any Contracting State having entered a reservation as provided for in paragraph 1 of this article may at any time withdraw such reservation by notifying in writing the Secretary-General of the United Nations.
3. Reservations other than those provided for in this Agreement are not permitted.

Article 17***Administrative Committee***

1. An Administrative Committee shall be established to consider the implementation of this Agreement, to consider any amendments proposed thereto and to consider measures to secure uniformity in the interpretation and application thereof.
2. The Contracting Parties shall be members of the Administrative Committee. The Committee may decide that the States referred to in Article 10, paragraph 1 of this Agreement which are not Contracting Parties, any other Member State of the Economic Commission for Europe or of the United Nations or representatives of international intergovernmental or non-governmental organizations may, for questions which interest them, attend the sessions of the Committee as observers.
3. The Secretary-General of the United Nations and the Secretary-General of the Central Commission for the Navigation of the Rhine shall provide the Administrative Committee with secretariat services.
4. The Administrative Committee shall, at the first session of the year, elect a Chairperson and a Vice-Chairperson.
5. The Executive Secretary of the Economic Commission for Europe shall convene the Administrative Committee annually, or at other intervals decided on by the Committee, and also at the request of at least five Contracting Parties.
6. A quorum consisting of not less than one half of the Contracting Parties shall be required for the purpose of taking decisions.
7. Proposals shall be put to the vote. Each Contracting Party represented at the session shall have one vote. The following rules shall apply:
 - (a) Proposed amendments to the Agreement and decisions pertaining thereto shall be adopted in accordance with the provisions of Article 19, paragraph 2;
 - (b) Proposed amendments to the annexed Regulations and decisions pertaining thereto shall be adopted in accordance with the provisions of Article 20, paragraph 4;
 - (c) Proposals and decisions relating to the recommendation of agreed classification societies, or to the withdrawal of such recommendation, shall be adopted in accordance with the procedure of the provisions of Article 20, paragraph 4;
 - (d) Any proposal or decision other than those referred to in paragraphs (a) to (c) above shall be adopted by a majority of the Administrative Committee members present and voting.
8. The Administrative Committee may set up such working groups as it may deem necessary to assist it in carrying out its duties.
9. In the absence of relevant provisions in this Agreement, the Rules of Procedure of the Economic Commission for Europe shall be applicable unless the Administrative Committee decides otherwise.

Article 18***Safety Committee***

A Safety Committee shall be established to consider all proposals for the amendment of the Regulations annexed to the Agreement, particularly as regards safety of navigation in relation to the construction, equipment and crews of vessels. The Safety Committee shall function within the framework of the activities of the bodies of the Economic Commission for Europe, of the Central Commission for the Navigation of the Rhine and of the Danube Commission which are competent in the transport of dangerous goods by inland waterways.

Article 19***Procedure for amending the Agreement, excluding the annexed Regulations***

1. This Agreement, excluding its annexed Regulations, may be amended upon the proposal of a Contracting Party by the procedure specified in this article.
2. Any proposed amendment to this Agreement, excluding the annexed Regulations, shall be considered by the Administrative Committee. Any such amendment considered or prepared during the meeting of the Administrative Committee and adopted by it by a two-thirds majority of the members present and voting shall be communicated by the Secretary-General of the United Nations to the Contracting Parties for their acceptance.
3. Any proposed amendments communicated for acceptance in accordance with paragraph 2 shall come into force with respect to all Contracting Parties six months after the expiry of a period of twenty-four months following the date of communication of the proposed amendment if, during that period, no objection to the amendment in question has been communicated in writing to the Secretary-General of the United Nations by a Contracting Party.

Article 20***Procedure for amending the annexed Regulations***

1. The annexed Regulations may be amended upon the proposal of a Contracting Party.

The Secretary-General of the United Nations may also propose amendments with a view to bringing the annexed Regulations into line with other international agreements concerning the transport of dangerous goods and the United Nations Recommendations on the Transport of Dangerous Goods, as well as amendments proposed by a subsidiary body of the Economic Commission for Europe with competence in the area of the transport of dangerous goods.

2. Any proposed amendment to the annexed Regulations shall in principle be submitted to the Safety Committee, which shall submit the draft amendments it adopts to the Administrative Committee.
3. At the specific request of a Contracting Party, or if the secretariat of the Administrative Committee considers it appropriate, amendments may also be proposed directly to the Administrative Committee. They shall be examined at a first session and if they are deemed to be acceptable, they shall be reviewed at the following session of the Committee at the same time as any related proposal, unless otherwise decided by the Committee.
4. Decisions on proposed amendments and proposed draft amendments submitted to the Administrative Committee in accordance with paragraphs 2 and 3 shall be made by a majority of the members present and voting. However, a draft amendment shall not be deemed adopted if, immediately after the vote, five members present declare their objection to it. Adopted draft amendments shall be communicated by the Secretary-General of the United Nations to the Contracting Parties for acceptance.

5. Any draft amendment to the annexed Regulations communicated for acceptance in accordance with paragraph 4 shall be deemed to be accepted unless, within three months from the date on which the Secretary-General circulates it, at least one-third of the Contracting Parties, or five of them if one-third exceeds that figure, have given the Secretary-General written notification of their objection to the proposed amendment. If the amendment is deemed to be accepted, it shall enter into force for all the Contracting Parties, on the expiry of a further period of three months, except in the following cases:
 - (a) In cases where similar amendments to other international agreements governing the carriage of dangerous goods have already entered into force, or will enter into force at a different date, the Secretary-General may decide, upon written request by the Executive Secretary of the Economic Commission for Europe, that the amendment shall enter into force on the expiry of a different period so as to allow the simultaneous entry into force of these amendments with those to be made to such other agreements or, if not possible, the quickest entry into force of this amendment after the entry into force of such amendments to other agreements; such period shall not, however, be of less than one month's duration.
 - (b) The Administrative Committee may specify, when adopting a draft amendment, for the purpose of entry into force of the amendment, should it be accepted, a period of more than three months' duration.

Article 21

Requests, communications and objections

The Secretary-General of the United Nations shall inform all Contracting Parties and all States referred to in Article 10, paragraph 1 of this Agreement of any request, communication or objection under Articles 19 and 20 above and of the date on which any amendment enters into force.

Article 22

Review conference

1. Notwithstanding the procedure provided for in Articles 19 and 20, any Contracting Party may, by notification in writing to the Secretary-General of the United Nations, request that a conference be convened for the purpose of reviewing this Agreement.

A review conference to which all Contracting Parties and all States referred to in Article 10, paragraph 1, shall be invited, shall be convened by the Executive Secretary of the Economic Commission for Europe if, within a period of six months following the date of notification by the Secretary-General, not less than one fourth of the Contracting Parties notify him of their concurrence with the request.

2. Notwithstanding the procedure provided for in Articles 19 and 20, a review conference to which all Contracting Parties and all States referred to in Article 10, paragraph 1, shall be invited, shall also be convened by the Executive Secretary of the Economic Commission for Europe upon notification in writing by the Administrative Committee. The Administrative Committee shall make a request if agreed to by a majority of those present and voting in the Committee.

3. If a conference is convened in pursuance of paragraphs 1 or 2 of this article, the Executive Secretary of the Economic Commission for Europe shall invite the Contracting Parties to submit, within a period of three months, the proposals which they wish the conference to consider.
4. The Executive Secretary of the Economic Commission for Europe shall circulate to all the Contracting Parties and to all the States referred to in Article 10, paragraph 1, the provisional agenda for the conference, together with the texts of such proposals, at least six months before the date on which the conference is to meet.

Article 23

Depository

The Secretary-General of the United Nations shall be the depositary of this Agreement.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Agreement.

DONE at Geneva, this twenty-sixth day of May two thousand, in a single copy, in the English, French, German and Russian languages for the text of the Agreement proper, and in the French language for the annexed Regulations, each text being equally authentic for the Agreement proper.

The Secretary-General of the United Nations is requested to prepare a translation of the annexed Regulations in the English and Russian languages.

The Secretary-General of the Central Commission for the Navigation of the Rhine is requested to prepare a translation of the annexed Regulations in the German language.

ANNEXED REGULATIONS

PART I

General provisions

CHAPTER 1.1

SCOPE AND APPLICABILITY

1.1.1 Structure

The Regulations annexed to ADN are grouped into nine parts. Each part is subdivided into chapters and each chapter into sections and subsections (see table of contents). Within each part the number of the part is included with the numbers of the chapters, sections and subsections, for example Part 2, Chapter 2, section 1 is numbered “2.2.1”.

1.1.2 Scope

1.1.2.1 For the purposes of Article 2 paragraph 2 (a) and Article 4 of ADN, the annexed Regulations specify:

- (a) dangerous goods which are barred from international carriage;
- (b) dangerous goods which are authorized for international carriage and the conditions attaching to them (including exemptions) particularly with regard to:
 - classification of goods, including classification criteria and relevant test methods;
 - use of packagings (including mixed packing);
 - use of tanks (including filling);
 - consignment procedures (including marking and labelling of packages and placarding and marking of vehicles and wagons embarked, the marking of vessels as well as documentation and information required);
 - provisions concerning the construction, testing and approval of packagings and tanks;
 - use of means of transport (including loading, mixed loading and unloading).

1.1.2.2 For the purposes of Article 5 of ADN, section 1.1.3 of this chapter specifies the cases in which the carriage of dangerous goods is partially or totally exempted from the conditions of carriage established by ADN.

1.1.2.3 For the purposes of Article 7 of ADN, Chapter 1.5 of this part specifies the rules concerning the derogations, special authorizations and equivalences for which that article provides.

1.1.2.4 For the purposes of Article 8 of ADN, Chapter 1.6 of this part specifies the transitional measures concerning the application of the Regulations annexed to ADN.

1.1.2.5 The provisions of ADN also apply to empty vessels or vessels which have been unloaded as long as the holds, cargo tanks or receptacles or tanks accepted on board are not free from dangerous substances or gases, except for the exemptions for which section 1.1.3 of these Regulations provides.

1.1.3 Exemptions**1.1.3.1 *Exemptions related to the nature of the transport operation***

The provisions laid down in ADN do not apply to:

- (a) (i) the carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for their personal or domestic use or for their leisure or sporting activities provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage. When these goods are flammable liquids carried in refillable receptacles filled by, or for, a private individual, the total quantity shall not exceed 60 litres per receptacle and 240 litres per cargo transport unit. Dangerous goods in IBCs, large packagings or tanks are not considered to be packaged for retail sale;
- (ii) the carriage of dangerous goods by private individuals in the limits defined in paragraph (a) (i) intended initially for their personal or domestic use or for their leisure or sporting activities and which are carried as waste, including the cases when these dangerous goods are no longer packaged in the original package for retail sale, provided that measures have been taken to prevent any leakage under normal conditions of carriage;
- (b) *(Deleted)*
- (c) the carriage undertaken by enterprises which is ancillary to their main activity, such as deliveries to or returns from building or civil engineering sites, or in relation to surveying, repairs and maintenance, in quantities of not more than 450 litres per packaging, including intermediate bulk containers (IBCs) and large packagings, and within the maximum quantities specified in 1.1.3.6. Measures shall be taken to prevent any leakage of contents in normal conditions of carriage. These exemptions do not apply to Class 7.

Carriage undertaken by such enterprises for their supply or external or internal distribution does not fall within the scope of this exemption;

- (d) the carriage undertaken by the competent authorities for the emergency response or under their supervision, insofar as such carriage is necessary in relation to the emergency response, in particular carriage undertaken to recover dangerous goods involved in an incident or accident and move them to the nearest appropriate safe place;
- (e) emergency transport under the supervision of the competent authorities intended to save human lives or protect the environment provided that all measures are taken to ensure that such transport is carried out in complete safety;
- (f) the carriage of uncleaned empty static storage vessels which have contained gases of Class 2, groups A, O or F, substances of Class 3 or Class 9 belonging to packing group II or III or pesticides of Class 6.1 belonging to packing group II or III, subject to the following conditions:

All openings with the exception of pressure relief devices (when fitted) are hermetically closed;

Measures have been taken to prevent any leakage of contents in normal conditions of carriage; and

The load is fixed in cradles or crates or other handling devices or to the vehicle, container or vessel in such a way that they will not become loose or shift during normal conditions of carriage.

This exemption does not apply to static storage vessels which have contained desensitized explosives or substances the carriage of which is prohibited by ADN.

NOTE: For radioactive material see also 1.7.1.4.

1.1.3.2 Exemptions related to the carriage of gases

The provisions laid down in ADN do not apply to the carriage of:

- (a) *(Reserved)*
- (b) *(Reserved)*
- (c) gases of Groups A and O (according to 2.2.2.1), if the pressure of the gas in the receptacle or tank at a temperature of 20 °C does not exceed 200 kPa (2 bar) and if the gas is not a liquefied or a refrigerated liquefied gas. This includes every kind of receptacle or tank, e.g. also parts of machinery and apparatus;

NOTE: This exemption does not apply to lamps. For lamps see 1.1.3.10.

- (d) gases contained in the equipment used for the operation of the vessel (e.g. fire extinguishers), including spare parts;
- (e) *(Reserved)*
- (f) gases contained in foodstuffs (except UN 1950), including carbonated beverages;
- (g) gases contained in balls intended for use in sports; and
- (h) *(Deleted)*

1.1.3.3 Exemptions related to dangerous goods used for the propulsion of vessels, vehicles, wagons or non-road mobile machinery carried, for the operation of their special equipment, for their upkeep or for their safety

The requirements of ADN do not apply to substances used

- for the propulsion of vessels, vehicles, wagons or non-road mobile machinery carried¹,
- for the upkeep of vessels,
- for the operation or upkeep of their permanently installed special equipment,

¹ For the definition of non-road mobile machinery see paragraph 2.7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) (United Nations document ECE/TRANS/WP.29/78/Rev.3) or Article 2 of Directive 97/68/EC of the European Parliament and of the Council of 16 December 1997 on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (Official Journal of the European Communities No. L 059 of 27 February 1998).

- for the operation or upkeep of their mobile special equipment used during carriage or intended to be used during carriage, or
- to ensure safety,

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

1.1.3.4 *Exemptions related to special provisions or to dangerous goods packed in limited or excepted quantities*

NOTE: For radioactive material see also 1.7.1.4.

1.1.3.4.1 Certain special provisions of Chapter 3.3 exempt partially or totally the carriage of specific dangerous goods from the requirements of ADN. The exemption applies when the special provision is referred to in Column (6) of Table A of Chapter 3.2 against the dangerous goods entry concerned.

1.1.3.4.2 Certain dangerous goods may be subject to exemptions provided that the conditions of Chapter 3.4 are met.

1.1.3.4.3 Certain dangerous goods may be subject to exemptions provided that the conditions of Chapter 3.5 are met.

1.1.3.5 *Exemptions related to empty uncleaned packagings*

Empty uncleaned packagings (including IBCs and large packagings) which have contained substances of Classes 2, 3, 4.1, 5.1, 6.1, 8 and 9 are not subject to the conditions of ADN if adequate measures have been taken to nullify any hazards. Hazards are nullified if adequate measures have been taken to nullify all hazards of Classes 1 to 9.

1.1.3.6 *Exemptions related to quantities carried on board vessels*

1.1.3.6.1 In the event of the carriage of dangerous goods in packages, the provisions of ADN other than those of 1.1.3.6.2 are not applicable when the gross mass of all the dangerous goods carried does not exceed 3,000 kg and for the individual classes does not exceed the quantity that is indicated in the Table below:

Class	Substances or articles in packages	Exempted quantities in kg:
All	Carriage in tanks, of any Class	0
1	Substances and articles of Class 1	0
2	Substances and articles of Class 2, groups T, TF, TC, TO, TFC or TOC, according to 2.2.2.1.3 and Aerosols of groups C, CO, FC, T, TF, TC, TO, TFC and TOC according to 2.2.2.1.6;	0
	Substances and articles of Class 2 of group F in accordance with 2.2.2.1.3 or; Aerosols of group F according to 2.2.2.1.6;	300
	Any other substances of Class 2	3000
3	Substances and articles of Class 3, Packing Group I	300
	Any other substances of Class 3	3000

<i>Class</i>	<i>Substances or articles in packages</i>	<i>Exempted quantities in kg:</i>
4.1	Substances and articles of Class 4.1 for which a danger label of model No. 1 is required in column (5) of Table A of Chapter 3.2;	0
	Any other substances and articles of Class 4.1, Packing Group I	300
	Any other substances and articles of Class 4.1	3000
4.2	Substances and articles of Class 4.2, Packing Group I	300
	Any other substances and articles of Class 4.2	3000
4.3	Substances and articles of Class 4.3, Packing Group I	300
	Any other substances and articles of Class 4.3	3000
5.1	Substances and articles of Class 5.1, Packing Group I	300
	Any other substances and articles of Class 5.1	3000
5.2	Substances and articles of Class 5.2 for which a danger label of model No. 1 is required in column (5) of Table A of Chapter 3.2;	0
	Any other substances and articles of Class 5.2	3000
6.1	Substances and articles of Class 6.1, Packing Group I	0
	Any other substances and articles of Class 6.1	3000
6.2	Substances and articles of class 6.2, Category A	0
	Any other substances and articles of Class 6.2	3000
7	Substances and articles of Class 7 under UN Nos. 2908, 2909, 2910 and 2911	3000
	Any other substances and articles of Class 7	0
8	Substances and articles of Class 8, Packing Group I	300
	Any other substances and articles of Class 8	3000
9	All substances and articles of Class 9	3000

1.1.3.6.2 The carriage of exempted quantities according to 1.1.3.6.1 is, however, subject to the following conditions:

- (a) The obligation to report in accordance with 1.8.5 remains applicable;
- (b) The requirements of sections 1.10.1, 1.10.2 and 1.10.3 apply to packages bearing UN Nos. 2910 and 2911 of Class 7 if the activity level (per package) exceeds the A₂ value;
- (c) Packages, except vehicles and containers (including swap bodies), shall comply with the requirements for packagings referred to in Parts 4 and 6 of ADR or RID; the provisions of Chapter 5.2 concerning marking and labelling are applicable;
- (d) The following documents shall be on board:
 - the transport documents (see 5.4.1.1); they shall concern all the dangerous goods carried on board;
 - the stowage plan (see 7.1.4.11.1);

(e) The goods shall be stowed in the holds.

This provision does not apply to goods loaded in:

- closed containers;
- sheeted vehicles or sheeted wagons;

(f) Goods of different class shall be separated by a minimum horizontal distance of 3 m. They shall not be stowed on top of each other.

This provision does not apply to:

- closed containers;
- sheeted vehicles or sheeted wagons;

(g) For seagoing and inland navigation vessels, where the latter carry only containers, the above requirements under (e) and (f) shall be considered to have been met if the provisions of the IMDG Code regarding stowage and separation are met and if this particular is recorded in the transport document.

1.1.3.6.3 and 1.1.3.6.4 *(Reserved)*

1.1.3.6.5 For the purposes of this sub-section, dangerous goods exempted in accordance with 1.1.3.1 (a), (b) and (d) to (f), 1.1.3.2 to 1.1.3.5, 1.1.3.7, 1.1.3.9 and 1.1.3.10 shall not be taken into account.

1.1.3.7 *Exemptions related to the carriage of electric energy storage and production systems*

The provisions laid down in ADN do not apply to electric energy storage and production systems (e.g., lithium batteries, electric capacitors, asymmetric capacitors, metal hydride storage systems and fuel cells):

- (a) installed in a means of transport, performing a transport operation and destined for its propulsion or for the operation of any of its equipment;
- (b) contained in an equipment for the operation of this equipment used or intended for use during carriage (e.g. a laptop computer), except for equipment such as data loggers and cargo tracking devices attached to or placed in packages, overpacks, containers or load compartments which are only subject to the requirements in 5.5.4.

1.1.3.8 *(Reserved)*

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

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

1.1.3.10 Exemptions related to the carriage of lamps containing dangerous goods

The following lamps are not subject to ADN provided that they do not contain radioactive material and do not contain mercury in quantities above those specified in special provision 366 of Chapter 3.3:

- (a) Lamps that are collected directly from individuals and households when carried to a collection or recycling facility;

NOTE: *This also includes lamps brought by individuals to a first collection point, and then carried to another collection point, intermediate processing or recycling facility.*

- (b) Lamps each containing not more than 1 g of dangerous goods and packaged so that there is not more than 30 g of dangerous goods per package, provided that:

- (i) the lamps are manufactured according to a certified quality management system;

NOTE: *ISO 9001 may be used for this purpose.*

and

- (ii) each lamp is either individually packed in inner packagings, separated by dividers, or surrounded with cushioning material to protect the lamps and packed into strong outer packagings meeting the general provisions of 4.1.1.1 of ADR and capable of passing a 1.2 m drop test;

- (c) Used, damaged or defective lamps each containing not more than 1 g of dangerous goods with not more than 30 g of dangerous goods per package when carried from a collection or recycling facility. The lamps shall be packed in strong outer packagings sufficient for preventing release of the contents under normal conditions of carriage meeting the general provisions of 4.1.1.1 of ADR and that are capable of passing a drop test of not less than 1.2 m;

- (d) Lamps containing only gases of Groups A and O (according to 2.2.2.1) provided they are packaged so that the projectile effects of any rupture of the lamp will be contained within the package.

NOTE: *Lamps containing radioactive material are addressed in 2.2.7.2.2 (b).*

1.1.4 Applicability of other regulations**1.1.4.1 General**

The following requirements are applicable to packages:

- (a) In the case of packagings (including large packagings and intermediate bulk containers (IBCs), the applicable requirements of one of the international regulations shall be met (see also Part 4 and Part 6);
- (b) In the case of containers, tank-containers, portable tanks and multiple element gas containers (MEGCs), the applicable requirements of ADR, RID or the IMDG Code shall be met (see also Part 4 and Part 6);
- (c) In the case of vehicles or wagons, the vehicles or wagons and their load shall meet the applicable requirements of ADR or of RID, as relevant.

NOTE: *For the marking, labelling, placarding and orange plate marking, see also Chapters 5.2 and 5.3.*

1.1.4.2 *Carriage in a transport chain including maritime, road, rail or air carriage***1.1.4.2.1**

Packages, containers, bulk-containers, portable tanks and tank-containers and MEGCs, which do not entirely meet the requirements for packing, mixed packing, marking, labelling of packages or placarding and orange plate marking, of ADN, but are in conformity with the requirements of the IMDG Code or the ICAO Technical Instructions shall be accepted for carriage in a transport chain including maritime or air carriage subject to the following conditions:

- (a) If the packages are not marked and labelled in accordance with ADN, they shall bear marks and danger labels in accordance with the requirements of the IMDG Code or the ICAO Technical Instructions;
- (b) The requirements of the IMDG Code or the ICAO Technical Instructions shall be applicable to mixed packing within a package;
- (c) For carriage in a transport chain including maritime carriage, if the containers, bulk-containers, portable tanks, tank-containers or MEGCs are not marked and placarded in accordance with Chapter 5.3 of these Regulations, they shall be marked and placarded in accordance with Chapter 5.3 of the IMDG Code. In such case, only 5.3.2.1.1 of these Regulations is applicable to the marking of the vehicle itself. For empty, uncleared portable tanks, tank-containers and MEGCs, this requirement shall apply up to and including the subsequent transfer to a cleaning station.

This derogation does not apply in the case of goods classified as dangerous goods in classes 1 to 9 of ADN and considered as non-dangerous goods according to the applicable requirements of the IMDG Code or the ICAO Technical Instructions.

1.1.4.2.2

When a maritime, road, rail or air transport operation follows or precedes carriage by inland waterway, the transport document used or to be used for the maritime, road, rail or air transport operation may be used in place of the transport document prescribed in 5.4.1 provided that the particulars it contains are in conformity with the applicable requirements of the IMDG Code, ADR, RID or the ICAO Technical Instructions, respectively except that, when additional information is required by ADN, it shall be added or entered at the appropriate place.

NOTE: For carriage in accordance with 1.1.4.2.1, see also 5.4.1.1.7. For carriage in containers, see also 5.4.2.

1.1.4.3***Use of IMO type portable tanks approved for maritime transport***

IMO type portable tanks (types 1, 2, 5 and 7) which do not meet the requirements of Chapters 6.7 or 6.8 of ADR, but which were built and approved before 1 January 2003 in accordance with the provisions of the IMDG Code (Amdt. 29-98) may continue to be used provided that they meet the applicable periodic inspection and test provisions of the IMDG Code². In addition, they shall meet the provisions corresponding to the instructions set out in columns (10) and (11) of Table A in Chapter 3.2 and the provisions of Chapter 4.2 of ADR. See also 4.2.0.1 of the IMDG Code.

1.1.4.4 and 1.1.4.5 *(Reserved)*

² The International Maritime Organization (IMO) has issued "Revised guidance on the continued use of existing IMO type portable tanks and road tank vehicles for the transport of dangerous goods" as circular CCC.1/Circ.3. The text of this guidance can be found on the IMO website at: www.imo.org.

1.1.4.6 *Other regulations applicable to carriage by inland waterway*

1.1.4.6.1 In accordance with article 9 of ADN, transport operations shall remain subject to the local, regional or international requirements generally applicable to the carriage of goods by inland waterway.

1.1.4.6.2 Where the requirements of these Regulations are in contradiction with the requirements referred to in 1.1.4.6.1, the requirements referred to in 1.1.4.6.1 shall not apply.

1.1.4.7 *Refillable pressure receptacles authorized by the United States of America Department of Transportation*

NOTE: For carriage in accordance with 1.1.4.7, see also 5.4.1.1.24.

1.1.4.7.1 *Import of gases*

Refillable pressure receptacles authorised by the United States of America Department of Transportation and constructed and tested in accordance with standards listed in Part 178, Specifications for Packagings of Title 49, Transportation, of the Code of Federal Regulations accepted for carriage in a transport chain in accordance with 1.1.4.2 may be carried from the location of the temporary storage at the end point of the transport chain to the end user.

1.1.4.7.2 *Export of gases and empty uncleaned pressure receptacles*

Refillable pressure receptacles authorised by the United States of America Department of Transportation and constructed in accordance with standards listed in Part 178, Specifications for Packagings of Title 49, Transportation, of the Code of Federal Regulations may be filled and carried only for the purpose of exporting to countries which are not Contracting Parties to ADN provided the following provisions are met:

- (a) The filling of the pressure receptacle is in accordance with the relevant requirements of the Code of Federal Regulations of the United States of America;
- (b) The pressure receptacles shall be marked and labelled in accordance with Chapter 5.2;
- (c) The provisions of 4.1.6.12 and 4.1.6.13 of ADR shall apply to pressure receptacles. Pressure receptacles shall not be filled after they become due for periodic inspection but may be carried after the expiry of the time-limit for purposes of performing inspection, including the intermediate carriage operations.

1.1.5 *Application of standards*

Where the application of a standard is required and there is any conflict between the standard and the provisions of ADN, the provisions of ADN take precedence. The requirements of the standard that do not conflict with ADN shall be applied as specified, including the requirements of any other standard, or part of a standard, referenced within that standard as normative.

NOTE: A standard provides details on how to meet the provisions of ADN and may include requirements in addition to those set out in ADN.

CHAPTER 1.2

DEFINITIONS, UNITS OF MEASUREMENT AND ABBREVIATIONS

1.2.1

Definitions

NOTE: This section contains all general or specific definitions.

For the purposes of these regulations:

A

Accommodation means spaces intended for the use of persons normally living on board, including galleys, food stores, lavatories, washrooms, bathrooms, laundries, halls, alleyways, etc., but excluding the wheelhouse;

Aerosol, see *Aerosol dispenser*;

Aerosol dispenser means an article consisting of any non-refillable receptacle meeting the requirements of 6.2.6 of ADR made of metal, glass or plastics, and containing a gas, compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state or in a gaseous state;

Animal material means animal carcasses, animal body parts, foodstuffs or feedstuffs derived from animals;

Approval

Multilateral approval, for the carriage of radioactive material, means approval by the relevant competent authority of the country of origin of the design or shipment, as applicable, and by the competent authority of each country through or into which the consignment is to be carried;

Unilateral approval, for the carriage of radioactive material, means an approval of a design which is required to be given by the competent authority of the country of origin of the design only. If the country of origin is not a Contracting Party to ADN, the approval shall require validation by the competent authority of a Contracting Party to ADN (see 6.4.22.8 of ADR);

Auto-ignition temperature (EN 13237:2012) means the lowest temperature determined under prescribed test conditions of a hot surface on which a flammable substance in the form of a gas/air or vapour/air mixture ignites.

Autonomous protection systems means all devices which are intended to halt incipient explosions immediately and/or to limit the effective range of an explosion and which are separately made available on the market for use as self-contained systems. This includes flame arresters, high velocity vent valves, vacuum relief valves, pressure relief valves and devices for the safe depressurization of cargo tanks capable of withstanding a deflagration (see also *Flame arrester*, *High velocity vent valve*, *Vacuum valve*, *Devices for the safe depressurization of cargo tanks* and *Deflagration*);

B

Bag means a flexible packaging made of paper, plastics film, textiles, woven material or other suitable material;

Battery-vehicle means a vehicle containing elements which are linked to each other by a manifold and permanently fixed to this vehicle. The following elements are considered to be elements of a battery-vehicle: cylinders, tubes, bundles of cylinders (also known as frames), pressure drums as well as tanks destined for the carriage of gases as defined in 2.2.2.1.1 with a capacity of more than 450 litres;

Battery-wagon means a wagon containing elements which are linked to each other by a manifold and permanently fixed to a wagon. The following elements are considered to be elements of a battery wagon: cylinders, tubes, bundles of cylinders (also known as frames), pressure drums as well as tanks intended for gases of Class 2 with a capacity greater than 450 litres;

Bilge water means oily water from the engine room bilges, the peak, the cofferdams and the double-hull spaces;

Biological/technical name means a name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose;

Body (for all categories of IBC other than composite IBCs) means the receptacle proper, including openings and closures, but does not include service equipment;

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

Boiler room means a space housing a fuel-operated installation designed to produce steam or heat a thermal fluid;

Box means a packaging with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fibreboard, plastics or other suitable material. Small holes for purposes of ease of handling or opening or to meet classification requirements, are permitted as long as they do not compromise the integrity of the packaging during carriage;

Breathing apparatus (ambient air-dependent filter apparatus) means an apparatus which protects the person wearing it when working in a dangerous atmosphere by means of a suitable filter. For such apparatuses, see for example European standard EN 136:1998. For the filters used, see for example European standard EN 14387:2004 + A1:2008;

Breathing apparatus (self-contained) means an apparatus which supplies the person wearing it when working in a dangerous atmosphere with breathing air by means of pressurized air carried with him or by means of an external supply via a tube. For such apparatuses, see for example European standard EN 137:2006 or EN 138:1994;

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

A bulk container is:

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods by one or more means of transport without intermediate reloading;

- fitted with devices permitting its ready handling;
- of a capacity of not less than 1.0 m³.

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

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

Closed bulk container means a totally closed bulk container having a rigid roof, sidewalls, end walls and floor (including hopper-type bottoms). The term includes bulk containers with an opening roof, side or end wall that can be closed during carriage. Closed bulk containers may be equipped with openings to allow for the exchange of vapours and gases with air and which prevent under normal conditions of carriage the release of solid contents as well as the penetration of rain and splash water;

Flexible bulk container means a flexible container with a capacity not exceeding 15 m³ and includes liners and attached handling devices and service equipment;

Sheeted bulk container means an open top bulk container with rigid bottom (including hopper-type bottom), side and end walls and a non-rigid covering;

Bulkhead means a metal wall, generally vertical, inside the vessel and which is bounded by the bottom, the side plating, a deck, the hatchway covers or by another bulkhead;

Bulkhead (watertight) means

- In a dry cargo vessel: a bulkhead constructed so that it can withstand water pressure with a head of 1.00 metre above the deck but at least to the top of the hatchway coaming;
- In a tank vessel: a bulkhead constructed to withstand a water pressure of 1.00 metre above the deck;

Bundle of cylinders (frame) means a pressure receptacle comprising an assembly of cylinders or cylinder shells that are fastened together and are interconnected by a manifold and carried as a unit. The total water capacity shall not exceed 3 000 litres except that bundles intended for the carriage of toxic gases of Class 2 (groups starting with letter T according to 2.2.2.1.3) shall be limited to 1 000 litres water capacity.

C

Capacity of shell or shell compartment, for tanks, means the total inner volume of the shell or shell compartment expressed in litres or cubic metres. When it is impossible to completely fill the shell or the shell compartment because of its shape or construction, this reduced capacity shall be used for the determination of the degree of filling and for the marking of the tank;

Cargo area means the whole of the following spaces on board tank vessels:

Space below deck:

The space between two vertical planes perpendicular to the centre-line plane of the vessel, which comprises cargo tanks, hold spaces, cofferdams, double-hull spaces and double bottoms; these planes normally coincide with the outer cofferdam bulkheads or hold end bulkheads.

Space above deck: the space which is bounded:

- Athwart, by ships vertical planes corresponding to the side plating;
- Fore and aft, by vertical planes at the height of the outer cofferdam bulkheads/hold end bulkheads;
- Upwards, by a horizontal plane 2.50 m above deck.

The boundary planes fore and aft are referred to as the ‘boundary planes of the cargo area’;

Cargo piping, see *Piping for loading and unloading*;

Cargo pump room means a service space where the cargo pumps and stripping pumps are installed together with their operational equipment;

Cargo residues means liquid cargo which cannot be pumped out of the cargo tanks or piping by means of the stripping system;

Cargo tank means a tank which is permanently attached to the vessel and intended for the carriage of dangerous goods.

Cargo tank design:

- (a) *Pressure cargo tank* means a cargo tank independent of the vessel’s hull, built according to dedicated recognised standards for a working pressure ≥ 400 kPa;
- (b) *Closed cargo tank* means a cargo tank connected to the outside atmosphere through a device preventing unacceptable internal overpressure or underpressure;
- (c) *Open cargo tank with flame arrester* means a cargo tank connected to the outside atmosphere through a device fitted with a flame arrester;
- (d) *Open cargo tank* means a cargo tank in open connection with the outside atmosphere.

Cargo tank type:

- (a) *Independent cargo tank* means a cargo tank which is permanently built in, but which is independent of the vessel’s structure;
- (b) *Integral cargo tank* means a cargo tank which is constituted by the vessel’s structure itself and bounded by the outer hull or by walls separate from the outer hull;
- (c) *Cargo tank with walls distinct from the outer hull* means an integral cargo tank of which the bottom and side walls do not form the outer hull of the vessel or an independent cargo tank;
- (d) *Membrane tank* means a cargo tank which consists of a thin liquid-tight and gastight layer (membrane) and insulation supported by the adjacent inner hull and inner bottom structure of a double hull vessel.

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

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

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

Cargo transport unit means a vehicle, a wagon, a container, a tank-container, a portable tank or an MEGC;

Carriage means the change of place of dangerous goods, including stops made necessary by transport conditions and including any period spent by the dangerous goods in vessels, vehicles, wagons, tanks and containers made necessary by traffic conditions before, during and after the change of place.

This definition also covers the intermediate temporary storage of dangerous goods in order to change the mode or means of transport (transshipment). This shall apply provided that transport documents showing the place of dispatch and the place of reception are presented on request and provided that packages and tanks are not opened during intermediate storage, except to be checked by the competent authorities;

Carriage in bulk means the carriage of an unpackaged solid which can be discharged;

NOTE: Within the meaning of ADN, the carriage in bulk referred to in ADR or RID is considered as carriage in packages.

Carrier means the enterprise which carries out the transport operation with or without a transport contract;

Classification society (recognized) means a classification society which is recognized by the competent authorities in accordance with Chapter 1.15;

Classification of explosion hazardous areas (see Directive 1999/92/CE¹)

Zone 0: areas in which dangerous explosive atmospheres of gases, vapours or sprays exist permanently or during long periods;

Zone 1: areas in which dangerous explosive atmospheres of gases, vapours or sprays are likely to occur occasionally;

Zone 2: areas in which dangerous explosive atmospheres of gases, vapours or sprays are likely to occur rarely and if so for short periods only;

See also *Classification of zones*

Classification of zones: this classification (see diagram) applies to tank vessels 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.

Zone 0 comprises:



- Inside all cargo tanks, tanks for residual products, receptacles for residual products and receptacles for slops, and pipings containing cargoes or cargo vapours, including their equipment, as well as pumps and compressors.

¹

Official Journal of the European Communities No. L 23 of 28 January 2000, p.57.

Zone 1 comprises:

- All spaces located below deck in the cargo area not part of zone 0.
- Closed spaces on deck within the cargo area.
- The deck in the cargo area over the entire width of the vessel to the outer cofferdam bulkheads.
- Up to a distance of at least 1.60 m to the “boundary planes of the cargo area”, the height above the deck is 2.50 m, but at least 1.50 m above the highest piping carrying cargoes or cargo vapours.

Adjacent (fore and aft) to the outermost cargo tank bulkheads, the height is 0.25 m above deck.

If the ship is built with hold spaces or a cofferdam/part of a cofferdam is arranged as a service space, the adjacent height (fore and aft) to the “boundary plane of the cargo area” is 1.00 m above deck (see diagram).

- Every opening in zone 0 except the high velocity vent valves/safety valves of pressurized cargo tanks shall be surrounded by a cylindrical ring whose inner radius is that of the opening, the outer radius is equal to that of the opening plus 2.50 m and the height is 2.50 m above the deck and 1.50 m above the piping.

For openings with a diameter of less than 0.026 m (1’’), the distance to the outer cofferdam bulkhead may be reduced to 0.50 m, provided it is ensured that such an opening is not opened to the atmosphere within this distance.

- A cylindrical area surrounding the high velocity vent valve/safety valve of pressurized cargo tanks with a radius of 3.00 m up to a height of 4.00 m above the opening of the high velocity vent valve/safety valve of pressurized cargo tanks.
- Around ventilation inlets of service spaces fitted with a ventilation system located in the cargo area, a zone included in a portion of a sphere with a radius of 1.00 m.

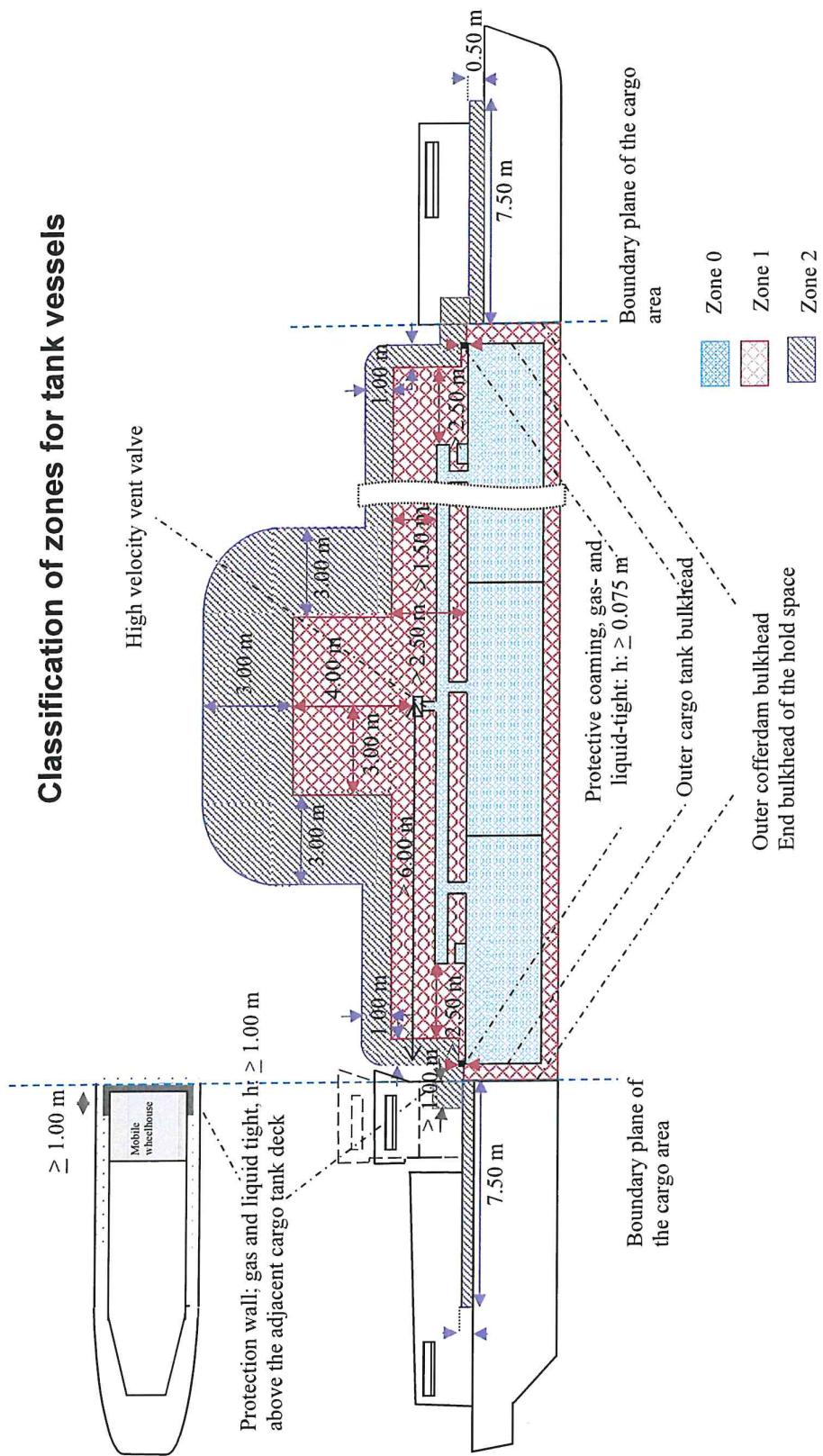
Zone 2 comprises:

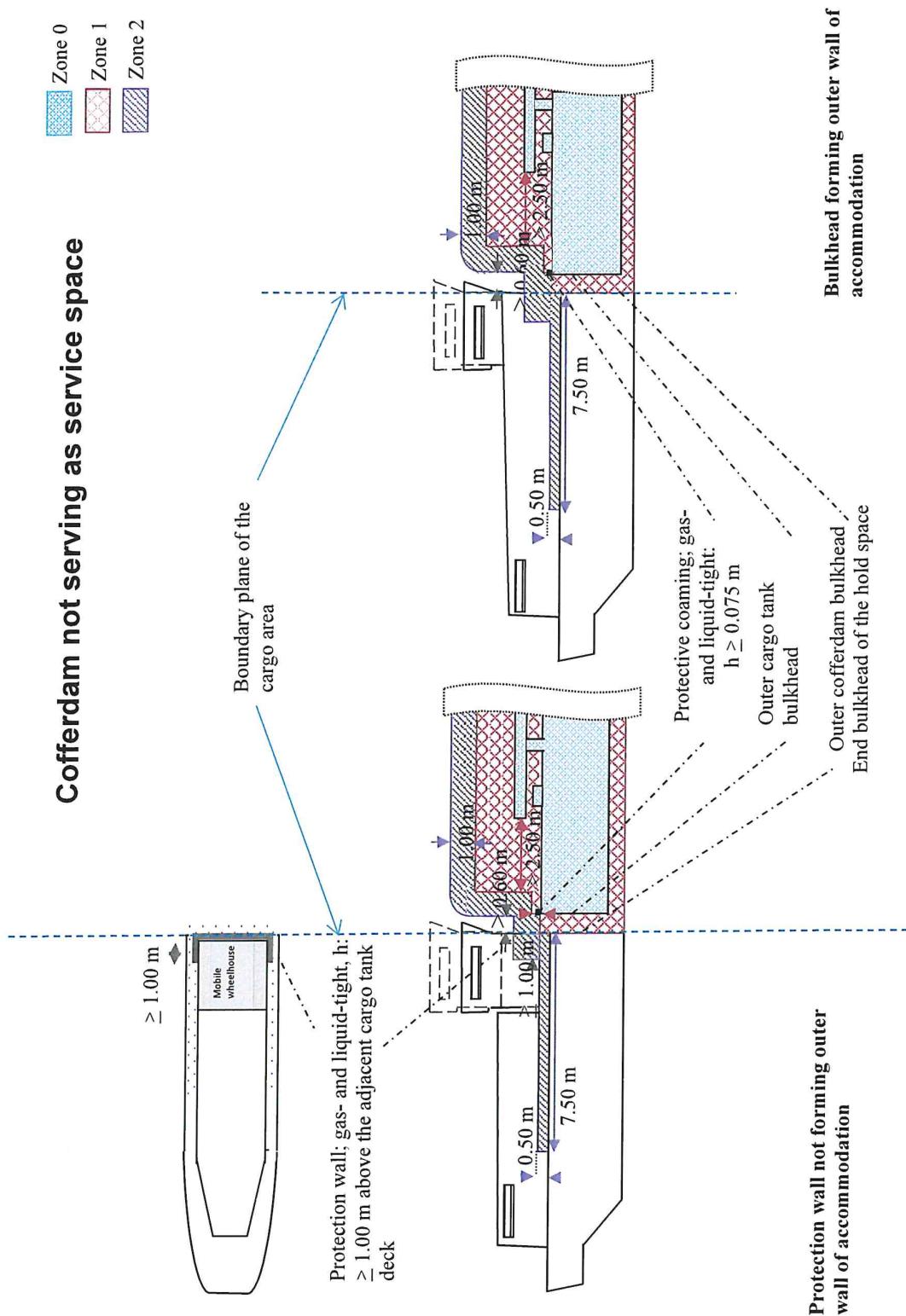
- On the deck in the cargo area, a zone extending 1.00 m upwards and sideways longitudinally from zone 1.
- On the fore deck and the aft deck, an area 7.50 m in length across the entire width of the vessel and adjacent to the “boundary plane of the cargo area”. Between the lateral side of the vessel and the protection wall, the length and height of this area equals the dimensions of the lateral side of the protection wall. Elsewhere, the height in zone 2 is 0.50 m.

This area is not part of zone 2 if the protection wall extends from one side of the vessel to the other and there are no openings.

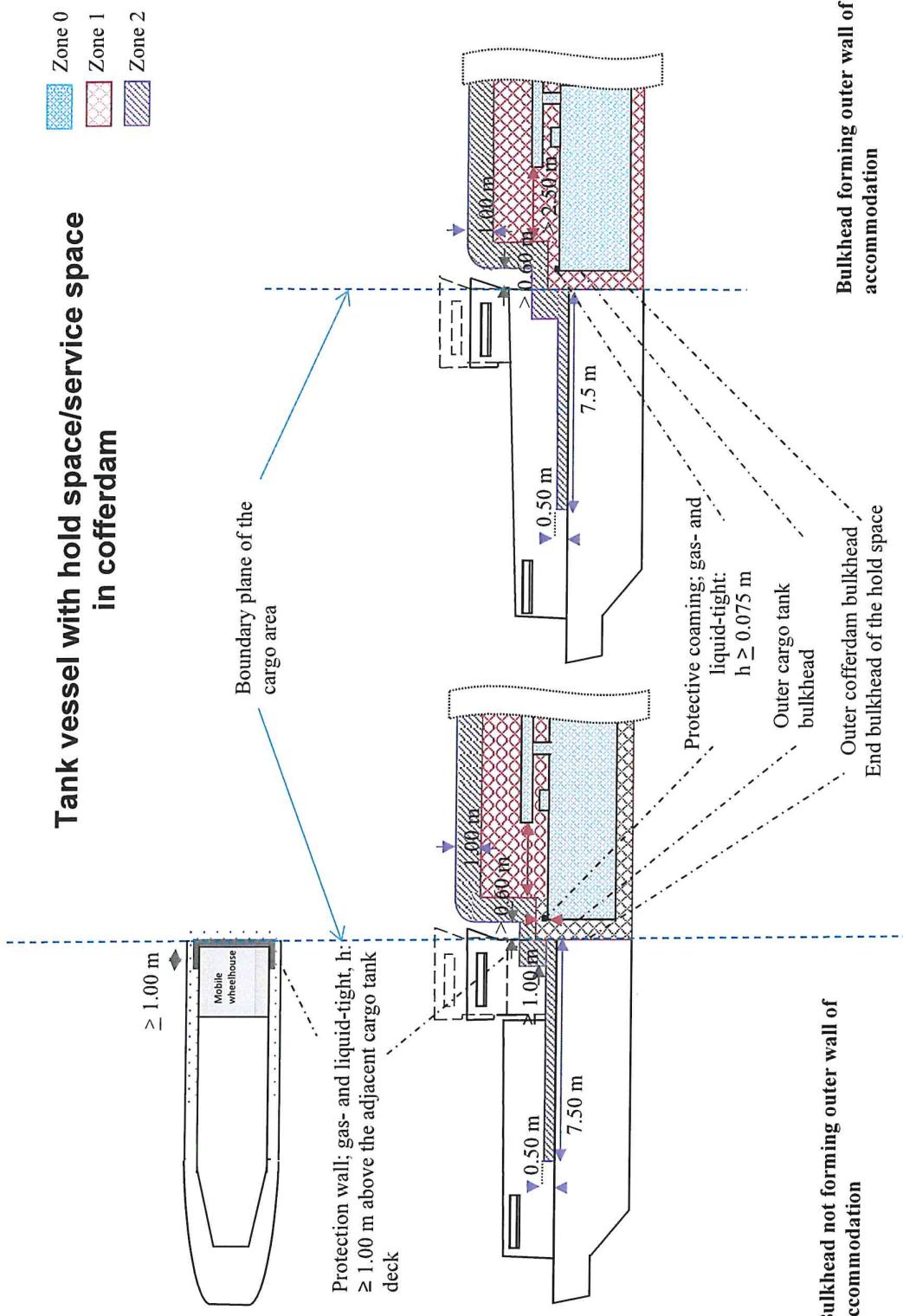
- An area of 3.00 m extending around zone 1 encompassing the high velocity vent valves/safety valves of pressure cargo tanks.
- Around the ventilation inlets of service spaces fitted with a ventilation system located in the cargo area, a zone included in a hemispherical shell with a radius of 1.00 m extending around zone 1;

Classification of zones for tank vessels





Tank vessel with hold space/service space in cofferdam



Closed bulk container, see *Bulk container*;

Closed container, see *Container*;

Closed-type sampling device means a device penetrating through the boundary of the cargo tank or through the piping for loading and unloading but constituting a part of a closed system designed so that during sampling no gas or liquid may escape from the cargo tank;

Closed vehicle means a vehicle having a body capable of being closed;

Closed wagon means a wagon with sides and a fixed or movable roof.

Closure means a device which closes an opening in a receptacle;

NOTE: For pressure receptacles, closures are, for example, valves, pressure relief devices, pressure gauges or level indicators.

Closed cryogenic receptacle means a thermally insulated pressure receptacle for refrigerated liquefied gases of a water capacity of not more than 1 000 litres;

Cofferdam means an athwartship compartment which is bounded by watertight bulkheads and which can be inspected. The cofferdam shall extend over the whole area of the end bulkheads of the cargo tanks. The bulkhead not facing the cargo area (outer cofferdam bulkhead) shall extend from one side of the vessel to the other and from the bottom to the deck in one frame plane;

Collective entry means an entry for a defined group of substances or articles (see 2.1.1.2, B, C and D);

Combination packaging means a combination of packagings for carriage purposes, consisting of one or more inner packagings secured in an outer packaging in accordance with 4.1.1.5 of ADR;

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

Competent authority means the authority or authorities or any other body or bodies designated as such in each State and in each specific case in accordance with domestic law;

Compliance assurance (radioactive material) means a systematic programme of measures applied by a competent authority which is aimed at ensuring that the requirements of ADN are met in practice;

Composite IBC with plastics inner receptacle means an IBC comprising structural equipment in the form of a rigid outer casing encasing a plastics inner receptacle together with any service or other structural equipment. It is so constructed that the inner receptacle and outer casing once assembled form, and are used as, an integrated single unit to be filled, stored, transported or emptied as such;

NOTE: Plastics material, when used in connection with inner receptacles for composite IBCs, is taken to include other polymeric materials such as rubber.

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

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

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

Compressed natural gas (CNG) means a compressed gas composed of natural gas with a high methane content assigned to UN No. 1971;

Confinement system, for the carriage of radioactive material, means the assembly of fissile material and packaging components specified by the designer and agreed to by the competent authority as intended to preserve criticality safety;

Consignee means the consignee according to the contract for carriage. If the consignee designates a third party in accordance with the provisions applicable to the contract for carriage, this person shall be deemed to be the consignee within the meaning of ADN. If the transport operation takes place without a contract for carriage, the enterprise which takes charge of the dangerous goods on arrival shall be deemed to be the consignee;

Consignment means any package or packages, or load of dangerous goods, presented by a consignor for carriage;

Consignor means the enterprise which consigns dangerous goods either on its own behalf or for a third party. If the transport operation is carried out under a contract for carriage, consignor means the consignor according to the contract for carriage. In the case of a tank vessel, when the cargo tanks are empty or have just been unloaded, the master is considered to be the consignor for the purpose of the transport document;

Containment system, for the carriage of radioactive material, means the assembly of components of the packaging specified by the designer as intended to retain the radioactive material during carriage;

Container means an article of transport equipment (lift van or other similar structure):

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods, by one or more means of transport, without breakage of load;
- fitted with devices permitting its ready stowage and handling, particularly when being transloaded from one means of transport to another;
- so designed as to be easy to fill and empty;
- having an internal volume of not less than 1 m³, except for containers for the carriage of radioactive material.

In addition:

Closed container means a totally enclosed container having a rigid roof, rigid side walls, rigid end walls and a floor. The term includes containers with an opening roof where the roof can be closed during transport;

Large container means:

- (a) a container which does not meet the definition of a small container;
- (b) in the meaning of the CSC, a container of a size such that the area enclosed by the four outer bottom corners is either
 - (i) at least 14 m² (150 square feet) or
 - (ii) at least 7 m² (75 square feet) if fitted with top corner fittings;

Open container means an open top container or a platform based container;

Sheeted container means an open container equipped with a sheet to protect the goods loaded;

Small container means a container which has an internal volume of not more than 3 m³;

A swap body is a container which, in accordance with European Standard EN 283 (1991 edition) has the following characteristics:

- from the point of view of mechanical strength, it is only built for carriage on a wagon or a vehicle on land or by roll-on roll-off ship;
- it cannot be stacked;
- it can be removed from vehicles by means of equipment on board the vehicle and on its own supports, and can be reloaded;

NOTE: The term “container” does not cover conventional packagings, IBCs, tank-containers, vehicles or wagons. Nevertheless, a container may be used as a packaging for the carriage of radioactive material.

Control temperature means the maximum temperature at which an organic peroxide, the self-reactive substance or the polymerizing substance can be safely carried;

Conveyance means, with respect to the carriage by inland waterway, any vessel, hold or defined deck area of any vessel; for carriage by road or by rail, it means a vehicle or a wagon;

Crate means an outer packaging with incomplete surfaces;

Criticality safety index (CSI) assigned to a package, overpack or container containing fissile material, for the carriage of radioactive material, means a number which is used to provide control over the accumulation of packages, overpacks or containers containing fissile material;

Critical temperature means the temperature above which the substance cannot exist in the liquid state;

Cylinder means a pressure receptacle of a water capacity not exceeding 150 litres (see also *Bundle of cylinders (frame)*);

D

Damage control plan means the plan indicating the boundaries of the watertight compartments serving as the basis for the stability calculations, in the event of a leak, the trimming arrangements for the correction of any list due to flooding and the means of closure which are to be kept closed when the vessel is under way;

Dangerous goods means those substances and articles the carriage of which is prohibited by ADN, or authorized only under the conditions prescribed therein;

Dangerous reaction means:

- (a) combustion or evolution of considerable heat;
- (b) evolution of flammable, asphyxiate, oxidizing or toxic gases;
- (c) the formation of corrosive substances;
- (d) the formation of unstable substances; or
- (e) dangerous rise in pressure (for tanks and cargo tanks only);

Deflagration means an explosion which propagates at subsonic speed (see EN 13237:2012);

Degassing means an operation with the aim of lowering the concentration of dangerous gases and vapours in empty or unloaded cargo tanks by emitting them to the atmosphere or to reception facilities;

Degree of filling means the ratio, expressed as a percentage, of the volume of liquid or solid introduced at 15 °C into the means of containment and the volume of the means of containment fitted ready for use;

Degree of filling of the cargo tank: when, for the carriage of liquid or molten substances, pressurized liquefied gases or refrigerated liquefied gases, a degree of filling is indicated for cargo tanks, this designates the percentage of the volume of the cargo tank that is filled with liquid. For the transport of gases carried in the gaseous phase in pressurized tanks, the degree of filling of the cargo tank refers to the ratio between the mass of gas and the mass of water at 15 °C that would completely fill the pressurized tank, which corresponds to a *filling ratio*.

Demountable tank means a tank, other than a fixed tank, a portable tank, a tank-container or an element of a battery-vehicle or a MEGC which has a capacity of more than 450 litres, is not designed for the carriage of goods without breakage of load, and normally can only be handled when it is empty; or a tank designed to fit the special apparatus of a wagon but which can only be removed from it after dismantling the means of attachment;

Design, for the carriage of radioactive material, means the description of fissile material excepted under 2.2.7.2.3.5 (f), special form radioactive material, low dispersible radioactive material, package or packaging which enables such an item to be fully identified. The description may include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, and other relevant documentation;

Design life, for composite cylinders and tubes, means the maximum life (in number of years) for which the cylinder or tube is designed and approved in accordance with the applicable standard;

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

Detonation means an explosion which propagates at supersonic speed and is characterized by a shock-wave (see EN 13237:2012);

Device for the safe depressurization of cargo tanks means a manually operated or remote-operated device which is mounted in such a way as to allow the cargo tanks to be depressurized in safety. 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, the device shall be deflagration safe and capable of withstanding steady burning for the most critical substance in the vessel substance list. The deflagration safety shall be tested according to international standard ISO 16852:2016² 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/391⁵ or at least equivalent) shall be supplied.

The deflagration safety may be ensured by an integrated flame arrester plate stack capable of withstanding steady burning or a flame arrester capable of withstanding steady burning (protection against deflagrations);

Diameter (for shells of tanks) means the internal diameter of the shell;

Dose rate means the ambient dose equivalent or the directional dose equivalent, as appropriate, per unit time, measured at the point of interest;

Drum means a flat-ended or convex-ended cylindrical packaging made out of metal, fibreboard, plastics, plywood or other suitable materials. This definition also includes packagings of other shapes, e.g. round, taper-necked packagings or pail-shaped packagings. *Wooden barrels* and *jerricans* are not covered by this definition.

E

EC Directive means provisions decided by the competent institutions of the European Community and which are binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods;

Emergency temperature means the temperature at which emergency procedures shall be implemented in the event of loss of temperature control;

Electrical apparatus protected against water jets means an electrical apparatus so designed that water, projected by a nozzle on the enclosure from any direction, has no damaging effects. The test conditions are specified in the IEC Publication 60529:1989 + A1:1999 + A2:2013, minimum degree of protection IP55;

Engine room means a space where combustion engines are installed;

Enterprise means any natural person, any legal person, whether profit-making or not, any association or group of persons without legal personality, whether profit-making or not, or any official body, whether it has legal personality itself or is dependent upon an authority that has such personality;

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.*

Equipment (see Directive 2014/34/EU³) means electrical or non-electrical machines, apparatus, fixed or mobile devices, control components and instrumentation thereof and detection or prevention systems which, separately or jointly, are intended for the generation, transfer, storage, measurement, control and conversion of energy and/or the processing of material and which are capable of causing an explosion through their own potential sources of ignition.

Equipment and articles which are assigned a UN number and transported as cargo are not included;

Equipment category (see Directive 2014/34/EU³) means the classification of equipment to be used within explosion hazardous areas determining the requisite level of protection to be ensured.

Equipment category 1 comprises equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a very high level of protection.

Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are present continuously, for long periods or frequently.

Equipment in this category must ensure the requisite level of protection, even in the event of rare incidents relating to equipment, and is characterized by means of protection such that:

- Either, in the event of failure of one means of protection, at least one independent second means provides the requisite level of protection; or
- Or the requisite level of protection is assured in the event of two faults occurring independently of each other.

Equipment of category 1 according to Directive 2014/34/EU³ is marked as II 1 G. Such equipment corresponds to EPL⁶ ‘Ga’ according to IEC 60079-0:2017+Cor 1:2020.

Equipment of category 1 is suitable for use in zones 0, 1 and 2.

Equipment category 2 comprises equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and of ensuring a high level of protection.

Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are likely to occur occasionally.

The means of protection relating to equipment in this category ensure the requisite level of protection, even in the event of frequently occurring disturbances or equipment faults which normally have to be taken into account.

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

⁶ The letters EPL mean: Equipment Protection Level.

Equipment of category 2 according to Directive 2014/34/EU³ is marked as II 2 G. Such equipment corresponds to EPL⁶ ‘Gb’ according to IEC 60079-0:2017+Cor 1:2020.

Equipment category 2 is suitable for use in zones 1 and 2.

Equipment category 3 comprises equipment designed to be capable of functioning in conformity with the operating parameters established by the manufacturer and ensuring a normal level of protection.

Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

Equipment in this category ensures the requisite level of protection during normal operation.

Equipment of category 3 according to Directive 2014/34/EU³ is marked as II 3 G. Such equipment corresponds to EPL⁶ ‘Gc’ according to IEC 60079-0:2017+Cor 1:2020.

Equipment of category 3 is suitable for use in zone 2.

Equipment intended for use in explosion hazardous areas means electrical and non-electrical equipment where measures are taken to prevent the equipment’s own ignition sources becoming effective. Such equipment shall comply with the requirements for use within the respective zone. It shall be tested according to the type of protection 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/391⁵ or at least equivalent) shall be supplied;

Equipment protection level (EPL⁶ (see IEC 60079-0:2017+Cor 1:2020)) means the level of protection assigned to equipment based on its likelihood of becoming a source of ignition.

EPL ‘Ga’:

Equipment with a ‘very high’ level of protection. Such equipment corresponds to equipment category 1 according to Directive 2014/34/EU.³

Equipment with the ‘Ga’ level of protection is suitable for use in zones 0, 1 and 2.

EPL ‘Gb’:

Equipment with a ‘high’ level of protection. Such equipment corresponds to equipment category 2 according to Directive 2014/34/EU.³

Equipment with the ‘Gb’ level of protection is suitable for use in zones 1 and 2.

EPL ‘Gc’:

Equipment with an ‘enhanced’ level of protection. Such equipment corresponds to equipment category 3 according to Directive 2014/34/EU.³

Equipment with the ‘Gc’ level of protection is suitable for use in zone 2;

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

⁶ The letters EPL mean: Equipment Protection Level.

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.

Escape boat means a specially designed directly accessible boat designed to withstand all identified hazards of the cargo and to evacuate the people in danger;

Escape device (suitable) means a respiratory protection device, designed to cover the wearer's mouth, nose and eyes, which can be easily put on and which serves to escape from a danger area. For such devices, see for example European standard EN 13794:2002, EN 402: 2003, EN 403: 2004 or EN 1146:2005;

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

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

Exclusive use, for the carriage of radioactive material, means the sole use, by a single consignor, of a conveyance or of a large container, in respect of which all initial, intermediate and final loading and unloading and shipment are carried out in accordance with the directions of the consignor or consignee where so required by ADN;

Explosion means a sudden reaction of oxidation or decomposition with an increase in temperature or in pressure or both simultaneously (see EN 13237:2012);

Explosion group/subgroup means a grouping of flammable gases and vapours according to their maximum experimental safe gaps (standard gap width, determined in accordance with specified conditions) and minimum ignition currents, and of electrical apparatus intended to be used in a potentially explosive atmosphere (see EN IEC 60079-0:2017+Cor 1:2020), installations, equipment and self-contained protection systems. For self-contained protection systems, the explosion group II B is subdivided into subgroups;

Explosion hazardous areas means areas in which an explosive atmosphere may occur of such a scale that special protection measures are necessary to ensure the safety and health of the persons affected (see Directive 1999/92/CE¹). Explosion hazardous areas are classified into zones by frequency of occurrence and duration of the presence of an explosive atmosphere.

See also *Classification of explosion hazardous areas*, *Explosion protection*, *Classification of zones* - for tank vessels and *Protected area* - for dry cargo vessels;

Explosion protection means all of the requirements which have to be met and means which have to be taken to avoid damage caused by explosions.

This includes:

Organizational measures such as, for example:

- (a) Determining explosion hazardous areas (classification of zones): in which an explosive atmosphere consisting of a mixture with air of flammable gases, vapours or sprays is likely to occur:
 - (i) continuously or for long periods or frequently (zone 0);
 - (ii) occasionally in normal operation (zone 1); or
 - (iii) exceptionally or only briefly (zone 2); (see Directive 1999/92/CE¹).

¹ Official Journal of the European Communities No. L 23 of 28 January 2000, p.57.

- (b) Prevention of ignition sources (use of low-sparking hand-tools, no smoking, use of personal protective equipment including dissipative shoes, non-isolating gloves, etc.);
- (c) Drafting of working instructions.

And technical requirements such as, for example:

- (a) Use of installations and equipment proven to be appropriate for use in the different explosion hazardous areas;
- (b) Use of autonomous protection systems;
- (c) Monitoring of potentially explosive atmospheres by the use of gas detection systems and gas detectors;

Explosion range means the range of the concentration of a flammable substance or mixture of substances in air, within which an explosion can occur, respectively the range of the concentration of a flammable substance or mixture of substances in mixture with air/inert gas, within which an explosion can occur, determined under specified test conditions;

Explosive atmosphere means a mixture of air with gases, vapours or mists flammable in atmospheric conditions, in which the combustion process spreads after ignition to the entire unconsumed mixture (see EN 13237:2012);

F

Fibreboard IBC means a fibreboard body with or without separate top and bottom caps, if necessary an inner liner (but no inner packagings), and appropriate service and structural equipment;

Fibre-reinforced plastics means material consisting of fibrous and/or particulate reinforcement contained within a thermoset or thermoplastic polymer (matrix);

Filler means any enterprise

- (a) which fills dangerous goods into a tank (tank-vehicle, tank wagon, demountable tank, portable tank or tank-container) or into a battery-vehicle, battery-wagon or MEGC; or
- (b) which fills dangerous goods into a cargo tank; or
- (c) which fills dangerous goods into a vessel, a vehicle, a wagon, a large container or small container for carriage in bulk;

Filling pressure means the maximum pressure actually built up in the tank when it is being filled under pressure; (see also *Calculation pressure*, *Discharge pressure*, *Maximum working pressure (gauge pressure)* and *Test pressure*);

Filling ratio means the ratio of the mass of gas to the mass of water at 15 °C that would fill completely the means of containment fitted ready for use (capacity);

NOTE: For the degree of filling of cargo tanks, see 'Degree of filling of the cargo tank'.

Fixed tank means a tank having a capacity of more than 1,000 litres which is permanently attached to a vehicle (which then becomes a tank-vehicle) or to a wagon (which then becomes a tank-wagon) or is an integral part of the frame of such vehicle or wagon;

Flame arrester means a device mounted in the vent of part of an installation or in the interconnecting piping of a system of installations, the purpose of which is to permit flow but prevent the propagation of a flame front. The flame arrester shall be tested according to the international standard ISO 16852:2016² 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/391⁵ or at least equivalent) shall be supplied;

Flame arrester plate stack means the part of the flame arrester the main purpose of which is to prevent the passage of a flame front;

Flame arrester housing means the part of a flame arrester the main purpose of which is to form a suitable casing for the flame arrester plate stack and ensure a mechanical connection with other systems;

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

Flash-point (Fp) means the lowest temperature of a liquid at which its vapours form a flammable mixture with air;

Flexible bulk container, see *Bulk container*;

Flexible IBC means a body constituted of film, woven fabric or any other flexible material or combinations thereof, and if necessary, an inner coating or liner, together with any appropriate service equipment and handling devices;

Frame (Class 2), see *Bundle of cylinders*;

Fuel cell means an electrochemical device that converts the chemical energy of a fuel to electrical energy, heat and reaction products;

Fuel cell engine means a device used to power equipment and which consists of a fuel cell and its fuel supply, whether integrated with or separate from the fuel cell, and includes all appurtenances necessary to fulfil its function;

Full load means any load originating from one consignor for which the use of a vehicle, of a wagon or of a large container is exclusively reserved and all operations for the loading and unloading of which are carried out in conformity with the instructions of the consignor or of the consignee;

NOTE: The corresponding term for radioactive material is “exclusive use”.

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.*

G

Gas (for the purposes of Class 2) means a substance which:

- (a) at 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- (b) is completely gaseous at 20 °C under standard pressure of 101.3 kPa;

Otherwise, *Gases* means gases or vapours;

Gas cartridge, see *Small receptacle containing gas*;

Gas detection system means a steady state monitoring system with direct-measuring sensors capable of detecting in time significant concentrations of flammable gases from the cargo at concentrations below their (LEL) and capable of activating the alarms when a limiting value is exceeded. It must be calibrated for n-Hexane or for a gas prescribed by the system's manufacturer. The threshold level of the sensors shall be set at not more than 10% of the LEL of n-Hexane or of the calibration gas prescribed by the system's manufacturer.

It shall be certified according to IEC/EN⁷ 60079-29-1:2016 and, with electronically driven systems, also according to EN 50271:2010 or EN 50271:2018. If it is used in explosion hazardous areas, it shall also comply with the requirements for use in the zone concerned and evidence of such compliance (e.g., conformity assessment procedure according to Directive 2014/34/EU,³ the IECEx System,⁴ ECE/TRADE/391⁵ or at least equivalent) shall be supplied;

Gas detector means a portable device allowing measurement of any significant concentration of flammable gases below the LEL and which clearly indicates the concentration of such gases. Gas detectors may be designed for measuring flammable gases only, but also for measuring both flammable gases and oxygen. This device shall be so designed that measurements are possible without the necessity of entering the spaces to be checked.

The maximum detection level of the sensors is 5% of the LEL of methane or the gas prescribed by the equipment manufacturer. The flammable gas detector shall be certified according to IEC/EN⁷ 60079-29-1:2016. If it is used in explosion hazardous areas, it shall also comply with the requirements for use in the zone concerned and evidence of such compliance (e.g., conformity assessment procedure according to Directive 2014/34/EU,³ the IECEx System,⁴ ECE/TRADE/391⁵ or at least equivalent) shall be supplied;

GESAMP means the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. IMO publication: "The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships", GESAMP Reports and Studies No. 64, IMO, London, 2002.

In applying the GESAMP model for the purposes of the present Regulations, the reference temperature for the relative density, vapour pressure and water solubility is 20°C. The reference relative density to be used to differentiate between floating substances ("floater") and substances that sink ("sinker") is 1,000 (corresponding to the water density in inland waterways of 1000 kg/m³);

Globally Harmonized System of Classification and Labelling of Chemicals means the tenth revised edition of United Nations publication bearing this title (ST/SG/AC.10/30/Rev.10);

⁷ IEC/EN means: This standard is available as an IEC standard and as a European standard.

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.

H

Handling device (for flexible IBCs) means any sling, loop, eye or frame attached to the body of the IBC or formed from the continuation of the IBC body material;

Hermetically closed tank means a tank that:

- is not equipped with safety valves, bursting discs, other similar safety devices or vacuum valves; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 of ADR, but is not equipped with vacuum valves.

A tank intended for the carriage of liquid substances with a calculation pressure of at least 4 bar or intended for the carriage of solid substances (powdery or granular) regardless of its calculation pressure is also considered hermetically closed if:

- it is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 of ADR and vacuum valves, in accordance with the requirements of 6.8.2.2.3 of ADR; or,
- it is not equipped with safety valves, bursting discs or other similar safety devices, but is equipped with vacuum valves, in accordance with the requirements of 6.8.2.2.3 of ADR;

Highest class may be assigned to a vessel when:

- the hull, inclusive of rudder and steering gear and equipment of anchors and chains, complies with the rules and regulations of a recognized classification society and has been built and tested under its supervision;
- the propulsion plant, together with the essential auxiliary engines, mechanical and electrical installations, have been made and tested in conformity with the rules and regulations of this classification society, and the installation has been carried out under its supervision, and the complete plant was tested to its satisfaction on completion;

High-velocity vent valve means a pressure relief valve designed to have nominal flow velocities which exceed the flame velocity of the explosive mixture, thus preventing flame transmission. When the vessel substance list 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, this pressure relief device shall be tested in accordance with international standard ISO 16852:2016² 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/391⁵ or at least equivalent) shall be supplied;

Hold means a part of the vessel which, whether covered by hatchway covers or not, is bounded fore and aft by bulkheads and which is intended to carry goods in packages or in bulk. The upper boundary of the hold is the upper edge of the hatchway coaming. Cargo extending above the hatchway coaming shall be considered as loaded on deck;

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

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

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.*

Hold space means an enclosed part of the vessel which is bounded fore and aft by watertight bulkheads and which is intended only to carry cargo tanks independent of the vessel's hull.

Holding time means the time that will elapse from the establishment of the initial filling condition until the pressure has risen due to heat influx to the lowest set pressure of the pressure limiting devices (s) of tanks intended for the carriage of refrigerated liquefied gases;

NOTE: For portable tanks, see 6.7.4.1 of ADR.

Hose assemblies means hoses, which are integrated or welded on both sides into hose fittings; hose fittings shall be integrated so that it is only possible to loosen them with a tool.

Hose fittings means couplings and connection elements of hoses.

Hoses means flexible tubular semi-finished products of elastomers, thermoplastics or stainless steel composed of one or several coatings and liners.

I

IAEA Regulations for the Safe Transport of Radioactive Material means one of the editions of those Regulations, as follows:

- (a) For the 1985 and 1985 (as amended 1990) editions: IAEA Safety Series No. 6;
- (b) For the 1996 edition: IAEA Safety Series No. ST-1;
- (c) For the 1996 (revised) edition: IAEA Safety Series No. TS-R-1 (ST-1, Revised);
- (d) For the 1996 (as amended 2003), 2005 and 2009 editions: IAEA Safety Standards Series No. TS-R-1;
- (e) For the 2012 edition: IAEA Safety Standards Series No. SSR-6;
- (f) For the 2018 edition: IAEA Safety Standards Series No. SSR-6 (Rev.1);

IBC Code means the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk, published by the International Maritime Organization (IMO);

ICAO Technical Instructions means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, which complement Annex 18 to the Chicago Convention on International Civil Aviation (Chicago 1944) published by the International Civil Aviation Organization (ICAO) in Montreal;

Identification number means the number for identifying a substance to which no UN number has been assigned or which cannot be classified under a collective entry with a UN number.

These numbers have four figures beginning with 9;

IEC means the International Electrotechnical Commission;

IMDG Code means the International Maritime Dangerous Goods Code, for the implementation of Chapter VII, Part A, of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), published by the International Maritime Organization (IMO), London;

IMSBC Code means the International Maritime Solid Bulk Cargoes Code of the International Maritime Organization (IMO);

Inner packaging means a packaging for which an outer packaging is required for carriage;

Inner receptacle means a receptacle which requires an outer packaging in order to perform its containment function;

Inner vessel, for a closed cryogenic receptacle, means the pressure vessel intended to contain the refrigerated liquefied gas;

Inspection body means an independent monitoring and verification body certified by the competent authority;

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

Intermediate bulk container (IBC) means a rigid, or flexible portable packaging, other than those specified in Chapter 6.1 of ADR, that:

- (a) has a capacity of:
 - (i) not more than 3 m³ for solids and liquids of packing groups II and III;
 - (ii) not more than 1.5 m³ for solids of packing group I when packed in flexible, rigid plastics, composite, fibreboard and wooden IBCs;
 - (iii) not more than 3 m³ for solids of packing group I when packed in metal IBCs;
 - (iv) not more than 3 m³ for radioactive material of Class 7;
- (b) is designed for mechanical handling;
- (c) is resistant to the stresses produced in handling and transport as determined by the tests specified in Chapter 6.5 of ADR;

(see also *Composite IBC with plastics inner receptacle*, *Fibreboard IBC*, *Flexible IBC*, *Metal IBC*, *Rigid plastics IBC* and *Wooden IBC*)

NOTE 1: Portable tanks or tank-containers that meet the requirements of Chapter 6.7 or 6.8 of ADR respectively are not considered to be intermediate bulk containers (IBCs).

NOTE 2: Intermediate bulk containers (IBCs) which meet the requirements of Chapter 6.5 of ADR are not considered to be containers for the purposes of ADN.

Intermediate packaging means a packaging placed between inner packagings or articles and an outer packaging;

International regulations means ADR, ICAO-TI, IMDG Code, IMSBC Code or RID.

J

Jerrican means a metal or plastics packaging of rectangular or polygonal cross-section with one or more orifices.

L

Large container, see *Container*;

Large packaging means a packaging consisting of an outer packaging which contains articles or inner packagings and which:

- (a) is designed for mechanical handling;
- (b) exceeds 400 kg net mass or 450 litres capacity but has a volume of not more than 3 m³;

Remanufactured large packaging means a metal or rigid plastics large packaging that:

- (a) Is produced as a UN type from a non-UN type; or
- (b) Is converted from one UN design type to another UN design type.

Remanufactured large packagings are subject to the same requirements of ADR that apply to new large packagings of the same type (see also design type definition in 6.6.5.1.2 of ADR);

Reused large packaging means a large packaging to be refilled which has been examined and found free of defects affecting the ability to withstand the performance tests; the term includes those which are refilled with the same or similar compatible contents and are carried within distribution chains controlled by the consignor of the product;

Large salvage packaging means a special packaging which

- (a) is designed for mechanical handling; and
- (b) exceeds 400 kg net mass or 450 litres capacity but has a volume of not more than 3 m³;

into which damaged, defective, leaking or non-conforming dangerous goods packages, or dangerous goods that have spilled or leaked are placed for purposes of carriage for recovery or disposal;

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

Light-gauge metal packaging means a packaging of circular, elliptical, rectangular or polygonal cross-section (also conical) and taper-necked and pail-shaped packaging made of metal, having a wall thickness of less than 0.5 mm (e.g. tinplate), flat or convex bottomed and with one or more orifices, which is not covered by the definitions for drums or jerricans;

Limited explosion risk electrical installations and equipment means electrical installations and equipment which, during normal operation, do not cause sparks or exhibits surface temperatures which are above 200 °C, including e.g.:

- three-phase squirrel cage rotor motors;
- brushless generators with contactless excitation;
- fuses with an enclosed fuse element;
- contactless electronic apparatus;

or means electrical installations and equipment with at least an enclosure protected against water jets (protection rating IP55 or higher) which during normal operation do not exhibit surface temperatures above 200 °C;

Liner means a tube or bag inserted into a packaging, including large packagings or IBCs, but not forming an integral part of it, including the closures of its openings;

Liquefied natural gas (LNG) means a refrigerated liquefied gas composed of natural gas with a high methane content assigned to UN No. 1972;

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

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

NOTE 2: For UN No. 1075 see NOTE 2 under 2F, UN No. 1965, in the table for liquefied gases in 2.2.2.3.

Liquid means a substance which at 50° C has a vapour pressure of not more than 300 kPa (3 bar) which is not completely gaseous at 20° C and 101.3 kPa, and which:

- (a) has a melting point or initial melting point of 20° C or less at a pressure of 101.3 kPa, or
- (b) is liquid according to the ASTM D 4359-90 test method or
- (c) is not pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

NOTE: "Carriage in the liquid state" for the purpose of tank requirements means:

- Carriage of liquids according to the above definition, or
- Solids handed over for carriage in the molten state;

Loader means any enterprise which:

- (a) Loads packaged dangerous goods, small containers or portable tanks into or onto a conveyance or a container; or
- (b) Loads a container, bulk-container, MEGC, tank-container or portable tank onto a conveyance; or
- (c) Loads a vehicle or a wagon into or onto a vessel;

Loading means all actions carried out by the loader, in accordance with the definition of loader;

Loading instrument: A loading instrument consists of a computer (hardware) and a programme (software) and offers the possibility of ensuring that in every ballast or loading case:

- the permissible values concerning longitudinal strength as well as the maximum permissible draught are not exceeded; and
- the stability of the vessel complies with the requirements applicable to the vessel. For this purpose intact stability and damage stability shall be calculated.

Lower explosion limit (LEL) means the lowest concentration of the explosion range at which an explosion can occur;

M

Main engine room means a space where the propulsion engines are installed;

Management system, for the carriage of radioactive material, means a set of interrelated or interacting elements (system) for establishing policies and objectives and enabling the objectives to be achieved in an efficient and effective manner;

Manual of Tests and Criteria means the eighth revised edition of the *Manual of Tests and Criteria*, published by the United Nations (ST/SG/AC.10/11/Rev.8);

Mass density shall be expressed in kg/m³. In the event of repetition, the number alone shall be used;

Mass of package means gross mass of the package unless otherwise stated. The mass of containers, tanks, vehicles and wagons used for the carriage of goods is not included in the gross mass;

Master means a person as defined in Article 1.02 of the European Code for Inland Waterways (CEVNI);

Maximum capacity means the maximum inner volume of receptacles or packagings including intermediate bulk containers (IBCs) and large packagings expressed in cubic metres or litres;

Maximum net mass means the maximum net mass of contents in a single packaging or maximum combined mass of inner packagings and the contents thereof expressed in kilograms;

Maximum normal operating pressure, for the carriage of radioactive material, means the maximum pressure above atmospheric pressure at mean sea-level that would develop in the containment system in a period of one year under the conditions of temperature and solar radiation corresponding to environmental conditions in the absence of venting, external cooling by an ancillary system, or operational controls during carriage;

Maximum permissible gross mass, means

- (a) (for IBCs) the mass of the IBC and any service or structural equipment together with the maximum net mass;
- (b) (for tanks) the tare of the tank and the heaviest load authorized for carriage;

NOTE: For portable tanks, see Chapter 6.7 of ADR.

Maximum working pressure means the maximum pressure occurring in a cargo tank or a residual cargo tank during operation. This pressure equals the opening pressure of high velocity vent valves or pressure relief valves;

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

Dangers that have to be taken into account are:

- For class 3, packing group III, UN 1202, second and third entry and for classes 4.1, 8 and 9 on tank vessels: leakage at the manifold;
- For other substances of class 3 and class 2 and for flammable substances of class 8 on tank vessels: fire in the area of the manifold on the deck and burning liquid on the water;

- For class 5.1 on tank vessels: oxidizing substances in combination with flammable liquids may cause an explosion;
- For class 6.1 on tank vessels: toxic gases around the manifold and in the direction of the wind;
- For dangerous goods on dry cargo vessels: dangers emanating from the goods in the cargo holds;

Metal hydride storage system means a single complete hydrogen storage system, including a pressure receptacle shell, metal hydride, pressure relief device, shut-off valve, service equipment and internal components used for the carriage of hydrogen only;

Metal IBC means a metal body together with appropriate service and structural equipment;

Mobile explosives manufacturing unit (MEMU) means a unit, or a vehicle mounted with a unit, for manufacturing and charging explosives from dangerous goods that are not explosives. The unit consists of various tanks and bulk containers and process equipment as well as pumps and related equipment. The MEMU may have special compartments for packaged explosives;

NOTE: Even though the definition of MEMU includes the expression "manufacturing and charging explosives" the requirements for MEMUs apply only to carriage and not to manufacturing and charging of explosives.

Multiple-element gas container (MEGC) means a unit containing elements which are linked to each other by a manifold and mounted on a frame. The following elements are considered to be elements of a multiple-element gas container: cylinders, tubes, pressure drums or bundles of cylinders as well as tanks for the carriage of gases as defined in 2.2.2.1.1 having a capacity of more than 450 litres;

NOTE: For UN MEGCs, see Chapter 6.7 of ADR.

N

Naked light means a source of light using a flame which is not enclosed in a flameproof enclosure;

Net explosive mass (NEM) means the total mass of the explosive substances, without the packagings, casings, etc. (*Net explosive quantity (NEQ)*, *net explosive contents (NEC)*, *net explosive weight (NEW)* or *net mass of explosive contents* are often used to convey the same meaning.);

Neutron radiation detector means a device that detects neutron radiation. In such a device, a gas may be contained in a hermetically sealed electron tube transducer that converts neutron radiation into a measureable electric signal;

N.O.S. entry (not otherwise specified entry) means a collective entry to which substances, mixtures, solutions or articles may be assigned if they:

- (a) are not mentioned by name in Table A of Chapter 3.2, and
- (b) exhibit chemical, physical and/or dangerous properties corresponding to the Class, classification code, packing group and the name and description of the n.o.s. entry;

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

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

O

Offshore bulk container means a bulk container specially designed for repeated use for carriage to, from and between offshore facilities. An offshore bulk container is designed and constructed in accordance with the guidelines for the approval of offshore containers handled in open seas specified by the International Maritime Organization (IMO) in document MSC/Circ.860;

Oil separator vessel means an open type N tank-vessel with a dead weight of up to 300 tonnes, constructed and fitted to accept and carry oily and greasy wastes from the operation of vessels. Vessels without cargo tanks are considered to be subject to Chapters 9.1 or 9.2;

Oil sludge means residual hydrocarbons from the normal operation of seagoing ships, e.g. residues from the treatment of fuel or lubricating oils for main or auxiliary machinery, waste oil obtained by separation from oil filtering installations, oily residues collected in pits and residues of hydraulic and lubricating oils;

NOTE: In ADN, the definition of MARPOL also includes residues resulting from the treatment of bilge water on board sea-going vessels.

Oily and greasy wastes from the operation of the vessel means used oils, bilge water and other oily or greasy wastes, such as used grease, used filters, used rags, and receptacles and packagings for such wastes;

Open container, see *Container*;

Open cryogenic receptacle means a transportable thermally insulated receptacle for refrigerated liquefied gases maintained at atmospheric pressure by continuous venting of the refrigerated liquefied gas;

Open vehicle means a vehicle the platform of which has no superstructure or is merely provided with side boards and a tailboard;

Open wagon means a wagon with or without side boards and a tailboard, the loading surfaces of which are open.

Opening pressure means the pressure referred to in column (10) of Table C of Chapter 3.2 at which the pressure relief valves/high-velocity vent valves open. For pressure tanks the opening pressure of the safety valve shall be established in accordance with the requirements of the competent authority or a recognized classification society;

Outer packaging means the outer protection of the composite or combination packaging together with any absorbent materials, cushioning and any other components necessary to contain and protect inner receptacles or inner packagings;

Over-moulded cylinder means a cylinder intended for the carriage of LPG with a water capacity not exceeding 13 l made of a coated welded steel inner cylinder shell with an over-moulded protective case made from cellular plastic, which is non-removable and bonded to the outer surface of the steel cylinder shell wall;

Overpack means an enclosure used (by a single consignor in the case of radioactive material) to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage;

Examples of overpacks:

- (a) a loading tray such as a pallet, on which several packages are placed or stacked and secured by a plastics strip, shrink or stretch wrapping or other appropriate means; or
- (b) an outer protective packaging such as a box or a crate;

Oxygen measuring system means a steady-state monitoring device capable of detecting in time any significant reduction of oxygen content of the air and capable of activating the alarms in case the oxygen concentration reaches 19.5% by volume.

This device shall be tested according to the European standard EN 50104:2019. If it is used in explosion hazardous areas, it shall also comply with the requirements for use in the zone concerned and evidence of such compliance (e.g., conformity assessment procedure according to Directive 2014/34/EU,³ the IECEx System,⁴ ECE/TRADE/391⁵ or at least equivalent) shall be supplied.

An oxygen measuring system may also be designed as part of a combination measuring system for measuring both flammable gases and oxygen;

Oxygen meter means a portable device allowing measuring of any significant reduction of the oxygen content of the air. An oxygen meter may either be a device for measuring oxygen only or part of a combination device for measuring both flammable gases and oxygen. This device shall be so designed that measurements are possible without the necessity of entering the spaces to be checked. It shall be tested according to EN 50104:2019. If it is used in explosion hazardous areas, it shall also comply with the requirements for use in the zone concerned and evidence of such compliance (e.g., conformity assessment procedure according to Directive 2014/34/EU,³ the IECEx System,⁴ ECE/TRADE/391⁵ or at least equivalent) shall be supplied.

P

Package means the complete product of the packing operation, consisting of the packaging or large packaging or IBC and its contents prepared for dispatch. Except for the carriage of radioactive material, the term includes receptacles for gases as defined in this section as well as articles which, because of their size, mass or configuration may be carried unpackaged or carried in cradles, crates or handling devices.

The term does not apply to goods which are carried in bulk in the holds of vessels, nor to substances carried in tanks in tank vessels.

On board vessels, the term also includes vehicles, wagons, containers (including swap bodies), tank-containers, portable tanks, battery-vehicles, battery-wagons, tank vehicles, tank wagons and multiple element gas containers (MECGs).

NOTE: For radioactive material, see 2.2.7.2, 4.1.9.1.1 and Chapter 6.4 of ADR.

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.

Packaging means one or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions (see also *Combination packaging*, *Composite packaging*, *Inner packaging*, *Intermediate bulk container (IBC)*, *Intermediate packaging*, *Large packaging*, *Light-gauge metal packaging*, *Outer packaging*, *Reconditioned packaging*, *Remanufactured packaging*, *Reused packaging*, *Salvage packaging* and *Sift-proof packaging*);

Packer means any enterprise which puts dangerous goods into packagings, including large packagings and intermediate bulk containers (IBCs) and, where necessary, prepares packages for carriage;

Packing group means a group to which, for packing purposes, certain substances may be assigned in accordance with their degree of danger. The packing groups have the following meanings which are explained more fully in Part 2:

Packing group I : Substances presenting high danger;

Packing group II : Substances presenting medium danger; and

Packing group III : Substances presenting low danger;

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

Piping for loading and unloading (cargo piping) means all piping which may contain liquid or gaseous cargo, including pipes, hose assemblies, connected pumps, filters and closure devices.

Portable tank means a multimodal tank having, when used for the carriage of gases as defined in 2.2.2.1.1, a capacity of more than 450 litres in accordance with the definitions in Chapter 6.7 of ADR or the IMDG Code and indicated by a portable tank instruction (T-Code) in Column (10) of Table A of Chapter 3.2 of ADR;

Portable tank operator, see *Tank-container/portable tank operator*;

Possibility of cargo heating means a cargo heating installation in the cargo tanks using a heat insulator. The heat insulator may be heated by means of a boiler on board the tank vessel (cargo heating system in accordance with 9.3.2.42 or 9.3.3.42) or from shore;

Pressure drum means a welded pressure receptacle of a water capacity exceeding 150 litres and of not more than 1,000 litres (e.g. cylindrical receptacles equipped with rolling hoops, spheres on skids);

Pressure receptacle means a transportable receptacle intended for holding substances under pressure including its closure(s) and other service equipment and is a collective term that includes cylinders, tubes, pressure drums, closed cryogenic receptacles, metal hydride storage systems, bundles of cylinders and salvage pressure receptacles;

Pressure receptacle shell means a cylinder, a tube, a pressure drum or a salvage pressure receptacle without its closures or other service equipment, but including any permanently attached device(s) (e.g. neck ring, foot ring);

NOTE: The terms "cylinder shell", "pressure drum shell" and "tube shell" are also used.

Pressure relief device means an automatically activated safety valve the purpose of which is to protect the cargo tank against unacceptable excess internal pressure;

Pressures means for tanks, all kinds of pressures (e.g. working pressure, opening pressure of the high velocity vent valves, test pressure) shall be expressed as gauge pressures in kPa (bar); the vapour pressure of substances, however, shall be expressed as an absolute pressure in kPa (bar);

Pressurized gas cartridge, see *Aerosol dispenser*;

Protected area means the whole of the following spaces on board of dry cargo vessels:

- (a) the hold or holds (when anti-explosion protection is required, zone 1);
- (b) the space situated above the deck (when anti-explosion protection is required, zone 2), bounded:
 - (i) athwartships, by vertical planes corresponding to the side plating;
 - (ii) fore and aft, by vertical planes corresponding to the end bulkheads of the hold; and
 - (iii) upwards, by a horizontal plane 2.00 m above the upper level of the load, but at least by a horizontal plane 3.00 m above the deck.

Protected IBC (for metal IBCs) means an IBC provided with additional protection against impact, the protection taking the form of, for example, a multi-layer (sandwich) or double-wall construction, or a frame with a metal lattice-work casing.

Protection wall, gas- and liquid-tight means a gas- and liquid-tight wall on deck at the height of the boundary plane of the cargo area preventing gases from entering areas outside the cargo area;

Protective coaming, liquid-tight means a liquid-tight coaming on deck at the height of the outer cargo tank bulkhead (see zoning diagram), but at a maximum distance of 0.60 m to the outer cofferdam bulkhead or hold end bulkheads, which prevents liquid from entering the fore and aft parts of the vessel. The connection between the protective coamings and the spill coaming shall be liquid tight;

Protective gloves means gloves which protect the wearer's hands during work in a danger area. The choice of appropriate gloves shall correspond to the dangers likely to arise (see for example European standards EN 374-1:2016, EN 374-2:2015 or EN 374-4:2013). In the case of dangers caused by electrostatic charging/discharging, they shall meet the requirements of standard EN 16350:2015;

Protective goggles, protective masks means goggles or face protection which protects the wearer's eyes or face during work in a danger area. The choice of appropriate goggles or masks shall correspond to the dangers likely to arise. For protective goggles or masks, see for example European standard EN 166:2001;

Protective shoes (or protective boots) means shoes or boots which protect the wearer's feet during work in a danger area. The choice of appropriate protective shoes or boots shall correspond to the dangers likely to arise, especially those caused by electrostatic charging/discharging, and meet the requirements of international standard ISO 20345:2012 or ISO 20346:2014;

Protective lining (for tanks) means a lining or coating protecting the metallic tank material against the substances to be carried;

NOTE: This definition does not apply to a lining or coating used only to protect the substance to be carried.

Protective suit means a suit which protects the wearer's body during work in a danger area. The choice of an appropriate protective suit shall correspond to the dangers likely to arise. For protective suits, see for example, ISO 13688:2013. In case of dangers caused by electrostatic charging/discharging, see also European standard EN 1149-5:2018.

Q

Quality assurance means a systematic programme of controls and inspections applied by any organization or body which is aimed at providing confidence that the safety prescriptions in ADN are met in practice.

R

Radiation detection system means an apparatus that contains radiation detectors as components;

Radioactive contents, for the carriage of radioactive material, mean the radioactive material together with any contaminated or activated solids, liquids, and gases within the packaging;

Reception facility means a stationary or mobile facility for receiving gases and vapours during degassing of empty or unloaded cargo tanks and piping for loading and unloading;

Receptacle (Class 1) includes boxes, cylinders, cans, drums, jars and tubes, including any means of closure used in the inner or intermediate packaging;

Receptacle means a containment vessel for receiving and holding substances or articles, including any means of closing. This definition does not apply to shells (see also *Closed cryogenic receptacle*, *Open cryogenic receptacles*, *Inner receptacle*, *Rigid inner receptacle* and *Gas cartridge*);

Receptacle for residual products means an intermediate bulk container or tank-container or portable tank intended to collect residual cargo, washing water, cargo residues or slops which are suitable for pumping. The receptacle shall be approved according to ADR, RID or the IMDG Code and authorized for the substance concerned. The maximum permissible capacity of an intermediate bulk container is 3 m³, and that of a tank-container or portable tank is 12 m³;

Receptacle for slops means a fire resistant receptacle capable of being closed with a lid intended to collect slops which are unsuitable for pumping. The receptacle shall be approved according to ADR, RID or the IMDG Code and authorized for the substance concerned. The maximum permissible capacity is 450 l. It should be easy to handle and marked "SLOP" (character height: 0.10 m);

Recycled plastics material means material recovered from used industrial packagings or from other plastics material that has been pre-sorted and prepared for processing into new packagings, including IBCs. The specific properties of the recycled material used for production of new packagings, including IBCs, shall be assured and documented regularly as part of a quality assurance programme recognized by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material, which is of homogeneous composition, is consistent with the material specifications (melt flow rate, density, and tensile properties) of the design type manufactured from such recycled material. This necessarily includes knowledge about the plastics material from which the recycled plastics have been derived, as well as awareness of the prior use, including prior contents, of the plastics material if that prior use might reduce the capability of new packagings, including IBCs, produced using that material.

In addition, the packaging or IBC manufacturer's quality assurance programme under 6.1.1.4 or 6.5.4.1 of ADR shall include performance of the appropriate mechanical design type tests in 6.1.5 or 6.5.6 of ADR on packagings or IBCs, manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than static load testing;

NOTE: ISO 16103:2005 “Packaging – Transport packages for dangerous goods – Recycled plastics material”, provides additional guidance on procedures which may be followed in approving the use of recycled plastics material. These guidelines have been developed based on the experience of the manufacturing of drums and jerricans from recycled plastics material and as such may need to be adapted for other types of packagings, IBCs and large packagings made of recycled plastics material.

Reel (Class 1) means a device made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with, or without, side walls at each end of the spindle. Articles and substances can be wound on to the spindle and may be retained by side walls;

Relative density (or specific density) describes the ratio of the density of a substance to the density of pure water at 3.98 °C (1000 kg/m³) and is dimensionless;

Remanufactured large packaging see *Large packaging*;

Rescue winch means a device for hoisting persons from spaces such as cargo tanks, cofferdams and double-hull spaces. The device shall be operable by one person;

Residual cargo means liquid cargo remaining in the cargo tank or cargo piping after unloading without the use of the stripping system;

Reused large packaging see *Large packaging*;

Rigid inner receptacle (for composite IBCs) means a receptacle which retains its general shape when empty without its closures in place and without benefit of the outer casing. Any inner receptacle that is not rigid is considered to be flexible;

Rigid plastics IBC means a rigid plastics body, which may have structural equipment together with appropriate service equipment;

S

Safe area means a designated, recognisable area outside the cargo area which can be readily accessed by all persons on board. The safe area provides protection against the identified hazards of the cargo by a water spray system for at least 60 minutes. The safe area can be evacuated during an incident. A safe area is not acceptable when the identified danger is explosion;

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

Safety adviser means a person who, in an undertaking the activities of which include the carriage, or the related packing, loading, filling or unloading, of dangerous goods by inland waterways, is responsible for helping to prevent the risks inherent in the carriage of dangerous goods;

Safety valve means a device which is activated automatically by pressure the purpose of which is to protect the cargo tank against unacceptable excess internal pressure or negative internal pressure (see also, *High velocity vent valve*, *Pressure-relief device* and *Vacuum valve*);

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

Salvage pressure receptacle means a pressure receptacle with a water capacity not exceeding 3 000 litres into which are placed damaged, defective, leaking or non-conforming pressure receptacle(s) for the purpose of carriage e.g. for recovery or disposal;

Sampling opening means a closable opening of a cargo tank with a diameter of not more than 0.30 m. When the vessel substance list 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, capable of withstanding steady burning for the most critical substance in the vessel substance list and so designed that the opening period will be as short as possible and that it cannot remain open without external intervention.

The deflagration safety shall be tested according to international standard ISO 16852:2016² 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/391⁵ or at least equivalent) shall be supplied. The deflagration safety may be ensured by an integrated flame arrester plate stack capable of withstanding steady burning or a flame arrester capable of withstanding steady burning (protection against deflagrations).

Other cargo tank openings, except cargo tank hatches, shall be deemed to be a sampling opening if they comply with the aforementioned requirements;

Self-accelerating decomposition temperature (SADT) means the lowest temperature at which self-accelerating decomposition may occur in a substance in the packaging, IBC or tank as offered for carriage. The SADT shall be determined in accordance with the test procedures given in Part II, Section 28 of the *Manual of Tests and Criteria*;

Self-accelerating polymerization temperature (SAPT) means the lowest temperature at which self-accelerating polymerization may occur with a substance in the packaging, IBC or tank as offered for carriage. The SAPT shall be determined in accordance with the test procedures established for the self-accelerating decomposition temperature for self-reactive substances in accordance with Part II, section 28 of the *Manual of Tests and Criteria*;

Service life, for composite cylinders and tubes, means the number of years the cylinder or tube is permitted to be in service;

Service space means a space which is accessible during the operation of the vessel and which is neither part of the accommodation nor of the cargo tanks, with the exception of the forepeak and after peak, provided no machinery has been installed in these latter spaces;

Settled pressure means the pressure of the contents of a pressure receptacle in thermal and diffusive equilibrium;

Sheeted bulk container, see *Bulk container*;

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.

Sheeted container, see *Container*;

Sheeted vehicle means an open vehicle provided with a sheet to protect the load;

Sheeted wagon means an open wagon provided with a sheet to protect the load;

Sift-proof packaging means a packaging impermeable to dry contents, including fine solid material produced during carriage;

Slops means a mixture of cargo residues with washing water, rust or sludge which may or may not be suitable for pumping;

Small container, see *Container*;

Small receptacle containing gas (gas cartridge) means a non-refillable receptacle having a water capacity not exceeding 1000 ml for receptacles made of metal and not exceeding 500 ml for receptacles made of synthetic material or glass, containing, under pressure, a gas or a mixture of gases. It may be fitted with a valve;

Solid means:

- (a) a substance with a melting point or initial melting point of more than 20 °C at a pressure of 101.3 kPa; or
- (b) a substance which is not liquid according to the ASTM D 4359-90 test method or which is pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

Spill coaming means a coaming on deck of the vessel parallel to the side plating with closable openings, to prevent spillage of liquids overboard. The connection to the protective coamings, if installed, shall be liquid tight;

Steady burning means combustion stabilized for an indeterminate period (see ISO 16852:2016²);

Stripping system (efficient) means a system according to Annex II of CDNI for complete draining, if possible, of the cargo tanks and stripping the cargo piping except for the cargo residues;

Supply vessel means an open type N tank vessel with a dead weight of up to 300 tonnes, constructed and fitted for the carriage and delivery to other vessels of products intended for the operation of vessels;

Swap-body, see *Container*.

T

Tank means a shell, including its service and structural equipment. When used alone, the term tank means a tank-container, portable tank, demountable tank, fixed tank or tank wagon as defined in this section, including tanks forming elements of battery-vehicles, battery wagons or MEGCs (see also *Demountable tank*, *Fixed tank*, *Portable tank* and *Multiple-element gas container*);

² *Identical to EN ISO 16852:2016*

Tank-container means an article of transport equipment meeting the definition of a container, and comprising a shell and items of equipment, including the equipment to facilitate movement of the tank-container without significant change of attitude, used for the carriage of gases, liquid, powdery or granular substances and, when used for the carriage of gases as defined in 2.2.2.1.1 having a capacity of more than 0.45 m³ (450 litres);

In addition:

Extra-large tank-container means a tank-container with a capacity of more than 40 000 litres.

NOTE: IBCs which meet the requirements of Chapter 6.5 of ADR are not considered to be tank-containers.

Tank-container or portable tank operator means any enterprise in whose name the tank-container or portable tank is operated;

Tank for residual products means a permanently built-in tank intended to collect residual cargo, washing water, cargo residues or slops which are suitable for pumping;

Tank record means a file containing all the important technical information concerning a tank, a battery-vehicle, a battery wagon or an MEGC, such as certificates referred to in 6.8.2.3, 6.8.2.4 and 6.8.3.4 of ADR;

Tank swap body is considered to be a tank-container;

Tank-vehicle means a vehicle built to carry liquids, gases or powdery or granular substances and comprising one or more fixed tanks. In addition to the vehicle proper, or the units of running gear used in its stead, a tank-vehicle comprises one or more shells, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units;

Tank vessel means a vessel intended for the carriage of substances in cargo tanks;

Tank wagon means a wagon intended for the carriage of liquids, gases, powdery or granular substances, comprising a superstructure, consisting of one or more tanks and their equipment and an underframe fitted with its own items of equipment (running gear, suspension, buffing, traction, braking gear and inscriptions).

NOTE: Tank wagon also includes wagons with demountable tanks.

Technical name means a recognized chemical name, or a recognized biological name where relevant, or another name currently used in scientific and technical handbooks, journals and texts (see 3.1.2.8.1.1);

Temperature class means a grouping of flammable gases and vapours of flammable liquids according to their ignition temperature; and of the electrical apparatus intended to be used in the corresponding potentially explosive atmosphere according to their maximum surface temperature (see EN 13237:2012);

Test pressure means the pressure at which a cargo tank, a residual cargo tank, a cofferdam or the loading and unloading piping shall be tested prior to being brought into service for the first time and subsequently regularly within prescribed times;

Through or into, for the carriage of radioactive material, means through or into the countries in which a consignment is carried but specifically excludes countries "over" which a consignment is carried by air provided that there are no scheduled stops in those countries;

Toximeter means a (trans)portable device allowing measuring of any significant concentration of toxic gases and vapours. The device has to comply with standard EN 45544-1:2015, EN 45544-2:2015, EN 45544-3:2015 and EN 45544-4:2016 or with standard ISO 17621:2015.

If this device is used in explosion hazardous areas it shall be in addition suitable to be used in the respective zone and it has to be proven that the applicable requirements are fulfilled (e.g. conformity assessment procedure according to Directive 2014/34/EU,³ the IECEx System,⁴ or to ECE/TRADE/391⁵ or at least equivalent).

This device shall be so designed that such measurements are possible without the necessity of entering the spaces to be checked.

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

Transport index (TI) assigned to a package, overpack or container, or to unpackaged LSA-I or SCO-I or SCO-III, for the carriage of radioactive material, means a number which is used to provide control over radiation exposure;

Transport unit means a motor vehicle without an attached trailer, or a combination consisting of a motor vehicle and an attached trailer;

Tray (Class 1) means a sheet of metal, plastics, fibreboard or other suitable material which is placed in the inner, intermediate or outer packaging and achieves a close-fit in such packaging. The surface of the tray may be shaped so that packagings or articles can be inserted, held secure and separated from each other;

Tube means a pressure receptacle of seamless or composite construction having a water capacity exceeding 150 litres and of not more than 3,000 litres;

Types of protection

Electrical equipment (see IEC 60079-0:2017+Cor 1:2020 or at least equivalent);

EEx d: flameproof enclosure (IEC 60079-1:2014+Cor 1:2018 or at least equivalent);

EEx e: increased safety (IEC 60079-7:2016 A1:2017 or at least equivalent);

EEx ia and EEx ib: intrinsic safety (IEC 60079-11:2011+Cor.:2012 or at least equivalent);

EEx m: encapsulation (IEC 60079-18:2014; A1:2017+ Cor.:2018 or at least equivalent);

EEx p: pressurized apparatus (IEC 60079-2:2014+Cor.:2015 or at least equivalent);

EEx q: powder filling (IEC 60079-5:2015 or at least equivalent);

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.