

CHAPTER 1.2

DEFINITIONS AND UNITS OF MEASUREMENT

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;

ADR means the European Agreement concerning the International Carriage of Dangerous Goods by Road;

Aerosol, see *Aerosol dispenser*;

Aerosol dispenser means any non-refillable receptacle meeting the requirements of 6.2.6 of ADR or of RID 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, or animal foodstuffs;

Approval

Multilateral approval, for the carriage of Class 7 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 Class 7 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 the first Contracting Party to ADN reached by the consignment (see 6.4.22.6 of ADR);

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

Auto-ignition temperature (EN 1127-1:1997, No. 331) 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.

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 a transport unit. 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;

BC Code means the Code of Safe Practice for Solid Bulk Cargoes of the International Maritime Organization (IMO);

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;

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 371:1992 or EN 372:1992;

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 137:1993 or EN 138:1994;

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

Bulk containers are:

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods by one or more modes of carriage without intermediate reloading;
- fitted with devices permitting its ready handling;
- of a capacity of not less than 1.0 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;

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

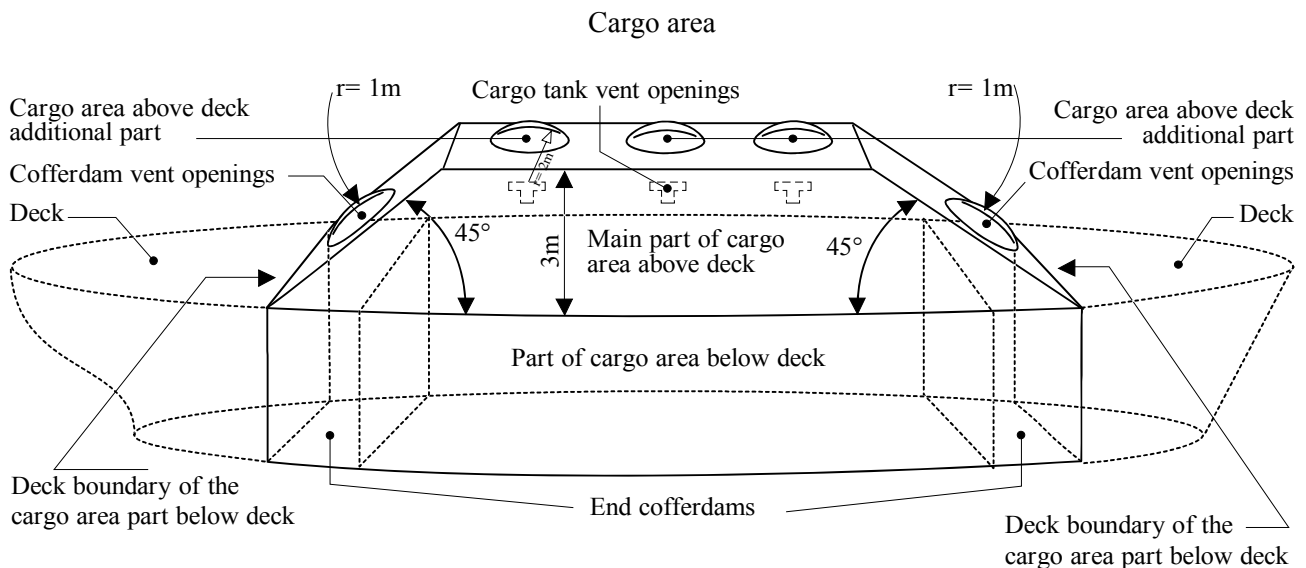
- In a dry cargo vessel: a bulkhead constructed so that it can withstand water pressure with a head of 1.00 metre above the deck but at least to the top of the hatchway coaming;
- In a tank vessel: a bulkhead constructed to withstand a water pressure of 1.00 metre above the deck;

Bundle of cylinders (frame) means an assembly of cylinders 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.

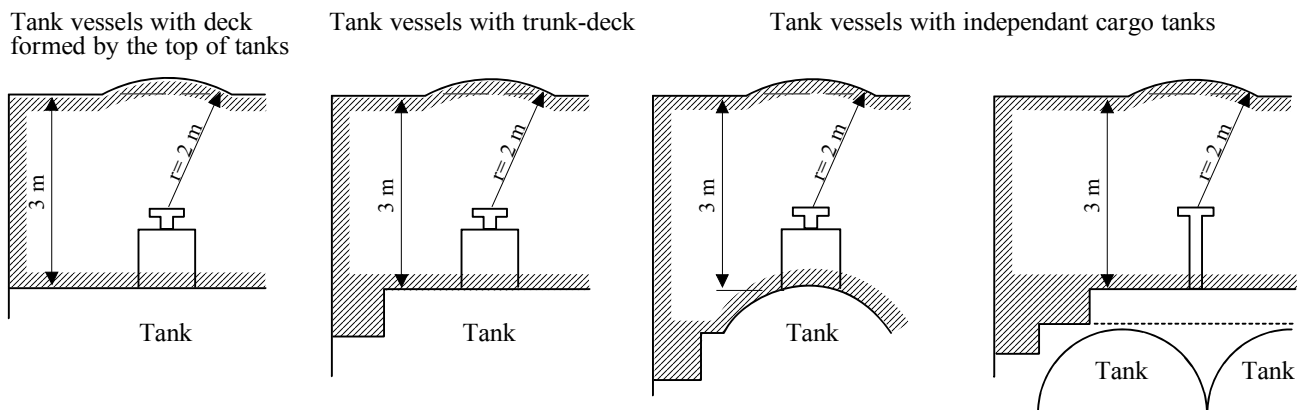
C

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 (see figures below);



Above deck cargo area for various tank vessel



Cargo area (additional part above deck) (When anti-explosion protection is required, comparable to zone 1) means the spaces not included in the main part of cargo area above deck comprising 1.00 m radius spherical segments centred over the ventilation openings of the cofferdams and the service spaces located in the cargo area part below the deck and 2.00 m spherical segments centred over the ventilation openings of the cargo tanks and the opening of the pump-rooms;

Cargo area (main part above deck) (When anti-explosion protection is required - comparable to zone 1) means the space which is bounded:

- at the sides, by the shell plating extending upwards from the decks sides;
- fore and aft, by planes inclined at 45° towards the cargo area, starting at the boundary of the cargo area part below deck;
- vertically, 3 m above the deck;

Cargo area (part below deck) means 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. Their intersection line with the deck is referred to as the boundary of the cargo area part below deck;

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

Cargo pump-room (When anti-explosion protection is required, comparable to zone 1) 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 (When anti-explosion protection is required, comparable to zone 0) means a tank which is permanently attached to the vessel and the boundaries of which are either formed by the hull itself or by walls separate from the hull and which is intended for the carriage of dangerous goods;

Cargo tank (condition)

discharged : empty, but containing residual cargo;
empty : dry, but not gas-free;
gas-free : not containing any measurable concentration of dangerous gases;

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;

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

Certified safe type electrical apparatus means an electrical apparatus which has been tested and approved by the competent authority regarding its safety of operation in an explosive atmosphere, e.g.

- intrinsically safe apparatus;
- flameproof enclosure apparatus;
- apparatus protected by pressurization;
- powder filling apparatus;
- apparatus protected by encapsulation;
- increased safety apparatus.

NOTE: *Limited explosion risk apparatus is not covered by this definition.*

CEVNI means the UNECE European Code for Inland Waterways;

CGA means the Compressed Gas Association (CGA, 4221 Walney Road, 5th Floor, Chantilly VA 20151-2923, United States of America);

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

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

Classification of zones (see Directive 1999/92/CE)*

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;

Closed container, see *Container*;

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

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;

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

Cofferdam (when anti-explosion protection is required, comparable to zone 1) 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 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 well-defined group of substances or articles (see 2.1.1.2, B, C and D);

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

NOTE: The “*inners*” of “*Combination packagings*” are always termed “*inner packagings*” and not “*inner receptacles*”. A glass bottle is an example of such an “*inner packaging*”.

Common vapour piping means a pipe connecting two or more cargo tanks. This pipe is fitted with safety valves which protect cargo tanks against unacceptable internal overpressures or vacuums; it is intended to evacuate gases and vapours to the shore facility;

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

Compensation piping means a pipe of the shore facility which is connected during the unloading to the vessel's common vapour pipe or gas return piping. This pipe is designed so as to protect the vessel against detonations or the passage of flames from the shore side;

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 (plastics material) is a packaging consisting of an inner plastics receptacle and an outer packaging (made of metal, fibreboard, plywood, etc.). Once assembled such a packaging remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

NOTE: *See NOTE under Composite packagings (glass, porcelain or stoneware).*

Composite packaging (glass, porcelain or stoneware) is a packaging consisting of an inner glass, porcelain or stoneware receptacle and an outer packaging (made of metal, wood, fibreboard, plastics material, expanded plastics material, etc.). Once assembled, such a packaging remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

NOTE: *The “innings” of “composite packagings” are normally termed “inner receptacles”. 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”.*

Confinement system, for the carriage of Class 7 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 Class 7 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 either any overall outer dimension (length, width or height) less than 1.5 m, or 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 or a self-reactive 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 Class 7 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;

Cryogenic receptacle means a transportable thermally insulated receptacle for refrigerated liquefied gases of a water capacity of not more than 1,000 litres (see also *Open cryogenic receptacle*);

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

Cylinder means a transportable 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 1127-1:1997);

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;

Design, for the carriage of Class 7 material, means the description of 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 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 1127-1:1997);

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 529, minimum degree of protection IP55;

EN (standard) means a European standard published by the European Committee for Standardization (CEN) (CEN – Avenue Marnix 17, B-1000 Brussels);

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;

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 400:1993, EN 401:1993, EN 402:1993, EN 403:1993 or EN 1146:1997;

Exclusive use, for the carriage of Class 7 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 is carried out in accordance with the directions of the consignor or consignee;

Explosion means a sudden reaction of oxidation or decomposition with an increase in temperature or in pressure or both simultaneously (see EN 1127-1:1997);

Explosion danger 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/EC*);

Explosion group means a grouping of flammable gases and vapours according to their maximum experimental safe gaps and minimum ignition currents, and of electrical apparatus which may be used in the corresponding potentially explosive atmosphere (see IEC publication 79 and EN 50014: 1994).

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 1127-1:1997);

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;

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 a pressure receptacle fitted ready for use (capacity);

Filling ratio (cargo tank): Where a filling ratio is given for a cargo tank, it refers to the percentage of the volume of the cargo tank which may be filled with liquid during loading;;

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. This device shall be tested according to the European standard EN 12 874 (1999);

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;

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

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;

Flammable gas detector means a device allowing measuring of any significant concentration of flammable gases given off by the cargo below the lower explosive limit and which clearly indicates the presence of higher concentrations of such gases. Flammable 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;

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

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 Class 7 is “exclusive use”.*

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 fixed system capable of detecting in time significant concentrations of flammable gases given off by the cargoes at concentrations below the lower explosion limit and capable of activating the alarms;

Gas return piping means a pipe connecting a cargo tank to the shore facility during loading. This pipe is fitted with safety valves protecting the cargo tank against unacceptable internal overpressures or vacuums; it is intended to evacuate gases to the shore facility;

GHS means the third revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals, published by the United Nations as document ST/SG/AC.10/30/Rev.3;

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 intended for the carriage of liquid substances with a calculation pressure of at least 4 bar or intended for the carriage of solid substances (powdery or granular) regardless of its calculation pressure, the openings of which are hermetically closed and which:

- is not equipped with safety valves, bursting discs, other similar safety devices or vacuum valves, or
- is not equipped with safety valves, bursting discs or other similar safety devices, but is equipped with vacuum valves, in accordance with the requirements of 6.8.2.2.3; of ADR; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 of ADR, but is not equipped with vacuum valves; or
- is equipped with safety valves preceded by a bursting disc according to 6.8.2.2.10 of ADR and vacuum valves, 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-reducing valve with a nominal ejection speed greater than the speed of propagation of a flame of a flammable mixture, thus preventing the passage of a flame front. This type of installation shall be tested in accordance with European standard EN 12 874 (1999);

Hold (when anti-explosion protection is required, comparable to zone 1 - see *Classification of zones*) 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 (condition)

discharged: empty, but containing residual cargo
empty: without residual cargo (swept clean);



Hold space (when anti-explosion protection is required, comparable to zone 1) 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.

I

IAEA means the International Atomic Energy Agency (IAEA), (IAEA, P.O. Box 100 – A-1400 Vienna);

IBC see *Intermediate bulk container*;

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 means the International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada);

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 Electro technical 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;

IMO means the International Maritime Organization (IMO, 4 Albert Embankment, London SE1 7SR, United Kingdom);

Independent cargo tank (when anti-explosion protection is required, comparable to zone 0) means a cargo tank which is permanently built in, but which is independent of the vessel's structure;

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;

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 inter 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, BC Code, ICAO-TI, IMDG Code or RID.

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

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;

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 apparatus means an electrical apparatus which, during normal operation, does not cause sparks or exhibits surface temperatures which are above the required temperature class, 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 an electrical apparatus with an enclosure protected against water jets (degree of protection IP55) which during normal operation does not exhibit surface temperatures which are above the required temperature class;

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;

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;

M

Manual of Tests and Criteria means the fifth revised edition of the United Nations Model Regulations on the Transport of Dangerous Goods, Manual of Tests and Criteria, published by the United Nations Organization (ST/SG/AC.10/11/Rev.5);

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 Class 7 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 all categories of IBCs other than flexible IBCs) means the mass of the IBC and any service or structural equipment together with the maximum net mass;
- (b) (for tanks) means the tare of the tank and the heaviest load authorized for carriage;

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

Maximum permissible load (for flexible IBCs) means the maximum net mass for which the IBC is intended and which it is authorized to carry;

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;

MEGC, see *Multiple-element gas container*;

MEMU, see *Mobile explosives manufacturing unit*;

Metal hydride storage system means a single complete hydrogen storage system, including a receptacle, 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 and 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.

Nominal capacity of the receptacle means the nominal volume of the dangerous substance contained in the receptacle expressed in litres. For compressed gas cylinders the nominal capacity shall be the water capacity of the cylinder;

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;

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 a list of substances in Chapter 3.2, Table C at which the 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;

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

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;

Overpack means an enclosure used (by a single consignor in the case of Class 7) 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 meter means a device allowing measuring of any significant reduction of the oxygen content of the air. Oxygen meters may either be a device for measuring oxygen only or part of a combination device for measuring both flammable gas and oxygen.

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

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.

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 (plastics material)*, *Composite packaging (glass, porcelain or stoneware)*, *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;

NOTE: Certain articles containing dangerous goods are assigned to a packing group.

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

Pipes for loading or unloading (cargo piping) means all pipes which may contain liquid or gaseous cargo, including the 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;

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

Pressure drum means a welded, transportable 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 relief device means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the cargo tank against unacceptable excess internal pressure;

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

Pressures 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);

Pressure tank means a tank designated and approved for a working pressure ≥ 400 kPa (4 bar).

Pressurized gas cartridge, see *Aerosol dispenser*;

Protected area means

- (a) the hold or holds (when anti-explosion protection is required, comparable to zone 1);
- (b) the space situated above the deck (when anti-explosion protection is required, comparable to 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.

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. For protective gloves, see for example European standard EN 374-1:1994, 374-2:1994 or 374-3:1994;

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. For protective shoes or boots, see for example European standard EN 346:1997;

Protective suit means a suit which protects the wearer's body during work in a danger area. The choice of appropriate suit shall correspond to the dangers likely to arise. For protective suits, see for example European standard EN 340:1993;

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 level, for the carriage of Class 7 material, means the corresponding dose rate expressed in millisieverts per hour;

Radioactive contents, for the carriage of Class 7 material, mean the radioactive material together with any contaminated or activated solids, liquids, and gases within the packaging;

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 *Cryogenic receptacle*, *Inner receptacle*, *Rigid inner receptacle* and *Gas cartridge*);

Receptacle for residual products means a tank, 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;

Receptacle for slops means a steel drum intended to collect slops which are unsuitable for pumping;

Recycled plastics material means material recovered from used industrial packagings that has been cleaned and prepared for processing into new packagings;

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*;

RID means Regulations concerning the International Carriage of Dangerous Goods by Rail, Appendix C of COTIF (Convention concerning International Carriage by Rail);

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

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 spring-loaded 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*);

SADT see *Self-accelerating decomposition temperature*;

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

Sampling opening means an opening with a diameter of not more than 0.30 m fitted with a flame arrester plate stack, capable of withstanding steady burning and so designed that the opening period will be as short as possible and that the flame arrester plate stack cannot remain open without external intervention. The flame arrester plate stack shall be of a type approved by the competent authority for this purpose;

Self-accelerating decomposition temperature (SADT), means the lowest temperature at which self-accelerating decomposition may occur with substance in the packaging as used during carriage. Provisions for determining the SADT and the effects of heating under confinement are contained in Part II of the Manual of Tests and Criteria;

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 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 and washing water, rust or sludge which is either suitable or not suitable for pumping;

Small container, see *Container*;

Small receptacle containing gas (gas cartridge) means a non-refillable receptacle meeting the relevant requirements of 6.2.6 of ADR containing, under pressure, a gas or a mixture of gases. It may be fitted with a valve;

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

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;

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

Steady burning means combustion stabilized for an indeterminate period (see EN 12 874:1999);

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 installation (bunkering system) means an installation for the supply of vessels with liquid fuels;

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 part, including tanks forming elements of battery-vehicles, battery wagons or MEGCs (see also *Demountable tank*, *Fixed tank*, *Portable tank* and *Multiple-element gas container*);

NOTE: For portable tanks, see 6.7.4.1 of ADR.

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);

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

Tank-container/portable tank operator means any enterprise in whose name the tank-container/portable tank is registered;

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 IEC publication 79 and EN 50 014:1994);

Test pressure means the pressure at which a cargo tank, a residual cargo tank, a cofferdam or the loading and unloading pipes 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 Class 7 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 device allowing measuring of any significant concentration of toxic gases given off by the cargo.

This device shall be so designed that such measurements are possible without the necessity of entering the spaced 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, for the carriage of Class 7 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 seamless transportable pressure receptacle of a water capacity exceeding 150 litres and of not more than 3,000 litres;

Types of protection (see IEC Publication 79 and EN 50 014:1994)

EEx (d)	:	flameproof enclosure (EN 50 018);
EEx (e)	:	increased safety (EN 50 019);
EEx (ia) and EEx (ib)	:	intrinsic safety (EN 50 020);
EEx (m)	:	encapsulation (EN 50 028);
EEx (p)	:	pressurized apparatus (EN 50 016);
EEx (q)	:	powder filling (EN 50 017).

Type of vessel

Type G : means a tank vessel intended for the carriage of gases. Carriage may be under pressure or under refrigeration.

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

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

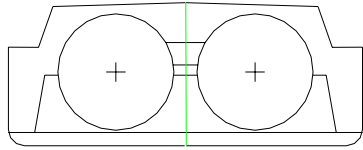
Closed Type N : a tank vessel intended for the carriage of liquids in closed cargo tanks.

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

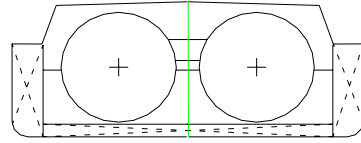
Open Type N with flame arrester : a tank vessel intended for the carriage of liquids in open cargo tanks whose openings to the atmosphere are equipped with a flame arrester capable of withstanding steady burning.

Sketches (as example)

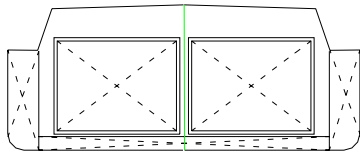
Type G :



Type G Condition of cargo tank 1,
Type of cargo tanks 1
(also by flush-deck)

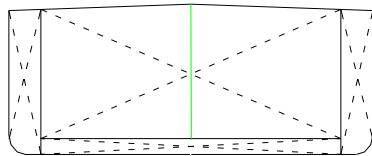


Type G Condition of cargo tank 1,
Type of cargo tanks 1
(also by flush-deck)

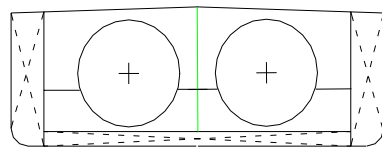


Type G Condition of cargo tank 2,
Type of cargo tank 1
(also by flush-deck)

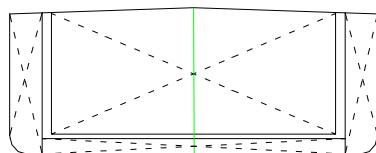
Type C :



Type C Condition of cargo tank 2,
Type of cargo tank 2

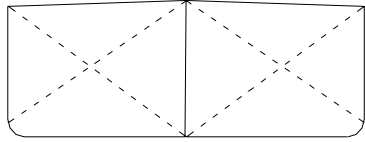


Type C Condition of cargo tank 1,
Type of cargo tank 1

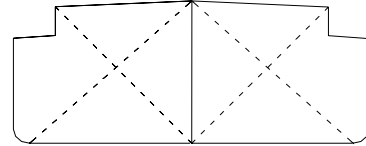


Type C Condition of cargo tank 2
Type of cargo tank 1

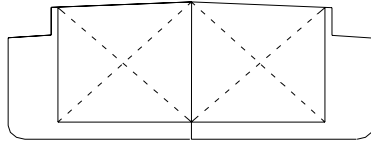
Type N :



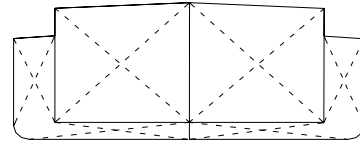
Type N Condition of cargo tank 2, 3 or 4
Type of cargo tank 2



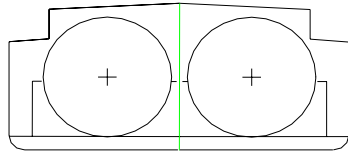
Type N Condition of cargo tank 2, 3 or 4
Type of cargo tank 2



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



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



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

U

UIC means the International Union of Railways (UIC, 16 rue Jean Rey, F-75015 Paris, France);

Undertaking, see *Enterprise*;

UNECE means the United Nations Economic Commission for Europe (UNECE, Palais des Nations, 8-14 avenue de la Paix, CH-1211 Geneva 10, Switzerland);

Unloader means any enterprise which:

- (a) Removes a container, bulk-container, MEGC, tank-container or portable tank from a conveyance; or
- (b) Unloads packaged dangerous goods, small containers or portable tanks out of or from a conveyance or a container; or
- (c) Discharges dangerous goods from a cargo tank, tank-vehicle, demountable tank, portable tank or tank-container; or from a battery-wagon, battery-vehicle, MEMU or MEGC; or from a conveyance for carriage in bulk, a large container or small container for carriage in bulk or a bulk container;
- (d) Removes a vehicle or a wagon from a vessel;

UN Model Regulations means the Model Regulations annexed to the sixteenth revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations (ST/SG/AC.10/1/Rev.16);

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

V

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

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

Vacuum valve means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the cargo tank against unacceptable negative internal pressure;

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

Venting piping means a pipe of the shore facility which is connected during the loading to the vessel's common vapour pipe or gas return piping. This pipe is designed so as to protect the vessel against detonations or the passage of flames from the shoreside;

Vessel means an inland navigation vessel or a seagoing vessel.

W

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

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

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

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

Working pressure means the settled pressure of a compressed gas at a reference temperature of 15° C in a full pressure receptacle.

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

1.2.2 Units of measurement

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

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

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

<u>Force</u>		<u>Stress</u>	
1 kg	= 9.807 N	1 kg/mm ²	= 9.807 N/mm ²
1 N	= 0.102 kg	1 N/mm ²	= 0.102 kg/mm ²

<u>Pressure</u>				
1 Pa	= 1 N/m ²	= 10 ⁻⁵ bar	= 1.02 H 10 ⁻⁵ kg/cm ²	= 0.75 H 10 ⁻² torr
1 bar	= 10 ⁵ Pa	= 1.02 kg/cm ²	= 750 torr	=
1 kg/cm ²	= 9.807 H 10 ⁴ Pa	= 0.9807 bar	= 736 torr	=
1 torr	= 1.33 H 10 ² Pa	= 1.33 H 10 ⁻³ bar	= 1.36 H 10 ⁻³ kg/cm ²	=

Energy, Work, Quantity of heat

1 J	= 1 N.m	= 0.278 H 10 ⁻⁶ kWh	= 0.102 kgm	= 0.239 H 10 ⁻³ kcal
1 kWh	= 3.6 H 10 ⁶ J	= 367 H 10 ³ kgm	= 860 kcal	
1 kgm	= 9.807 J	= 2.72 H 10 ⁻⁶ kWh	= 2.34 H 10 ⁻³ kcal	
1 kcal	= 4.19 H 10 ³ J	= 1.16 H 10 ⁻³ kWh	= 427 kgm	

Power

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

Kinematic viscosity

1 m ² /s	= 10 ⁴ St (Stokes)
1 St	= 10 ⁻⁴ m ² /s

Dynamic viscosity

$$\begin{aligned}
 1 \text{ Pa.s} &= 1 \text{ N.s/m}^2 &= 10 \text{ P (poise)} &= 0.102 \text{ kg.s/m}^2 \\
 1 \text{ P} &= 0.1 \text{ Pa.s} &= 0.1 \text{ N.s/m}^2 &= 1.02 \times 10^{-2} \text{ kg.s/m}^2 \\
 1 \text{ kg.s/m}^2 &= 9.807 \text{ Pa.s} &= 9.807 \text{ N.s/m}^2 &= 98.07 \text{ P}
 \end{aligned}$$

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

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

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

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

NOTE: 10⁹ = 1 billion is United Nations usage in English. By analogy, so is 10⁻⁹ = 1 billionth.

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

- (a) In the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid, a percentage mass based on the total mass of the mixture, the solution or the wetted solid;
- (b) In the case of mixtures of compressed gases, when filled by pressure, the proportion of the volume indicated as a percentage of the total volume of the gaseous mixture, or, when filled by mass, the proportion of the mass indicated as a percentage of the total mass of the mixture;
- (c) In the case of mixtures of liquefied gases and dissolved gases, the proportion of the mass indicated as a percentage of the total mass of the mixture.

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

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