

PART 1

GENERAL PROVISIONS AND DEFINITIONS

CHAPTER 1.1**GENERAL PROVISIONS****Introductory Notes**

Note 1: Recommendations on Tests and Criteria incorporated by reference in Certain provisions of this Regulation are published in a separate manual - Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria United Nations, with the following content:

*Part I: Classification procedures, test methods and criteria
Class 1 explosives.*

*Part II: Classification procedures, test methods and criteria
Subclass 4.1 self-reactive substances and peroxides
Subclass 5.2.*

*Part III: Classification procedures, test methods and criteria
Relating to substances or articles of Class 2, Class 3, Class 4,
Subclass 5.1, Class 8 and Class 9.*

Part IV: Test methods for transport equipment.

*Appendices: Information common to certain types of national trials and contacts
Countries for details of the trials.*

*Note 2: Part III of the Manual of Tests and Criteria contains some
Classification, test methods and criteria which are also included in this Regulation.*

*Note 3: In the other chapters of this Regulation, any reference to any Party to the
Manual of Tests and Criteria above will be translated into Portuguese.*

*Note 4: For the purposes of classification, the latest published version of the
Referred to in this Manual.*

1.1.1 Scope and application

1.1.1.1 This Regulation specifies detailed requirements
Hazardous products. Except as otherwise provided in this Regulation, no one
May offer or accept dangerous products for carriage if such products are not

4

Transportation of dangerous goods and accompanied by the required documentation.

1.1.1.2 The provisions concerning the inland transport of products do not apply.

In the following cases:

(A) dangerous products being used for the propulsion of means of transport;

(B) dangerous products required, in accordance with operational regulations, for the means of Transport (eg fire extinguishers);

C) dangerous products being used for the operation of the equipment
Means of transport (for example, refrigeration units);

D) dangerous products sold already packaged in the retail trade, carried by individuals
For own use, limited to half of the maximum quantity laid down in Column 8 of
List of Hazardous Products, except those packaged in IBCs, large packagings and
Portable tanks;

(E) dangerous goods for the purposes of personal care and household use intended for the
Direct sales trade, when transported from the distribution center to the residence of the
Reseller, in internal or single packs of up to 1,5 kg or 1,5 L and in
Volumes up to 15 kg;

F) Transport by both sides of the vehicle,
In the event of an emergency, to tow damaged or damaged vehicles which have contained or
Contain dangerous products such as vehicles intended for containment,
Recovery or displacement of the dangerous products involved in an incident or
Accident to an appropriate location.

Note 1: *For the purposes of this Regulation, direct selling trade is characterized by
A physical person reseller who receives the products requested in his residence,
From the distribution center, and delivers them directly to the buyer.*

Note 2: *Special provisions, as set out in Chapter 3.3, may also indicate
Products not subject to this Regulation.*

Referring to Fig.

1.1.1.3 Expeditions to or from ports or airports, or
Under a customs procedure, meeting the requirements laid down in the IMDG Code
The International Maritime Organization (IMO) or the Organization's Technical Instructions
International Civil Aviation Organization (ICAO), will be accepted for inland
Accompanied by the documentation required in Chapter 5 of this Regulation, document

The import or export of the product and also taking into account the following conditions:

(A) the packages shall be identified in accordance with the provisions laid down in IMDG Code or in the ICAO Technical Instructions if they do not agree with the This Regulation;

(B) the transport equipment shall be marked in accordance with the Provisions of the IMDG Code or the Not in accordance with this Regulation.

1.1.1.3.1 In the transport of dangerous products from the port area to the Customs regime authorized by the Federal Revenue Container Handling Guide - Import (GMCI) or Declaration of Transit Importer shall provide documentation containing the Required in item 5.4.1.3.1 and the declarations required in item 5.4.1.7 of this Regulation, as well as Such as the Emergency Card and Transport Envelope required in item "c" of the item 5.4.1.8.1.

1.1.1.3.2 Items 1.1.1.3 and 1.1.1.3.1 shall not apply to products classified as Only in land transport.

1.1.1.3.3 Imported dangerous products already packaged abroad, the packaging of which Comply with the type-approval requirements laid down in the IMDG Code by the International Maritime Organization (IMO) or in the Technical Instructions of the Civil Aviation (ICAO), will be accepted for inland transportation in the country, without Exchange of packaging.

1.1.1.3.4 Packaging, large packagings, IBCs and portable tanks manufactured in Brazil Approved by the competent Brazilian air or sea Accepted for land transportation in the country, observing the periods of periodic inspections of the IBCs and portable tanks established in this Regulation.

1.1.1.4 Exceptions relating to dangerous products in limited quantities
Certain hazardous products in limited quantities are exempted from Compliance with certain requirements of this Regulation, under the conditions established in Chapter 3.4.

1.1.1.5 Transport of Hazardous Products used as refrigerants or packaging

Hazardous products which are only asphyxiating (ie diluting or Replace the oxygen normally present in the atmosphere), when used in vehicles and Refrigeration or conditioning equipment are subject

Only to the provisions of item 5.5.3.

1.1.1.6 Transport of radioactive material

Also applicable are the Radioactive Materials Transport Standards,
Published by the National Commission of Nuclear Energy - CNEN.

1.1.1.7 Lamps containing dangerous products

The following lamps shall not be subject to the requirements laid down in
Provided that they do not contain radioactive material or mercury in quantities
Higher than those specified in Special Provision 366 established in Chapter 3.3:

(A) bulbs collected directly from users and households when
Transported to collection and recycling facilities;

(B) lamps containing up to 1 gram of dangerous products
Packed in such a way that the volume does not contain more than 30 grams
Hazardous product and provided that:

(I) The lamps are certified by a control system of the
Manufacturer's quality; and

*Note: For this purpose, it is considered acceptable to the service standard
ISO 9.001.*

(ii) Each lamp is individually packaged in a carton
Internal or separated by partitions or wrapped by
Cushion sufficient to protect it, and packaged in a
Resistant outer packaging that meets the general

7

Item 4.1.1.1 and which are capable of withstanding a fall test
With a minimum height of 1.2 meters.

(C) already used, damaged or defective lamps each containing
Up to 1 gram of dangerous products and up to 30 grams of
Dangerous substances by volume when transported from premises intended for
Collection and recycling. The lamps shall be packed in packs
Sufficiently strong to prevent release of
Lamps in normal conditions of
General provisions of item 4.1.1.1 and that are capable of supporting a
Drop test with a minimum height of 1.2 meters.

(D) lamps containing only gases of Subclass 2.2 (as
Item 2.2.2.1), provided that they are packed in such a way that the
The projectile effects of any lamp rupture are contained
Within the volume.

Notice: *Lamps containing radioactive material must comply with the Established in the Standards published by CNEN.*

1.1.1.8 Hazardous products prohibited for transport

Except as otherwise provided in this Regulation, it is prohibited to Transport of substances and articles which, in the state in which they are presented for Transport, may explode, react dangerously, produce flame or Dangerous release of heat or a dangerous emission of toxic gases or vapors, Corrosive or flammable under normal conditions of carriage.

1.1.1.9 Hazardous products shipped by the Post Office

The shipment of dangerous goods by the Post Office must take into Established by the Universal Postal Union Convention, as well as the national provisions Established by the Post Office.

Referring to Fig.

Page 7

1.1.2 Standards of the Brazilian Association of Technical Standards - ABNT

Transport of dangerous goods

In the land transport of dangerous products, the following ABNT Standards Must be met:

NBR 7500 - Identification for land transportation, handling, movement and Storage of products;

NBR 7503 - Inland transport of dangerous goods - Emergency Sheet and Envelope - characteristics, dimensions and fill;

NBR 9735 - set of equipment for emergencies on land transport dangerous products;

NBR 10271 - set of equipment for emergencies in road transport hydrofluoric acid; and

NBR 14619 - Inland transport of dangerous goods - Chemical Incompatibility.

Note 1: *The prescriptions contained in the Standards referred to in this item shall be*

*Only when they refer to complements of already established provisions
This Regulation.*

Note 2: *Where there is any conflict between the provisions contained in the
Referred to in item 1.1.2 and those established in this Regulation, the latter shall prevail.*

1.1.3 Road transport of hazardous products

1.1.3.1 The shipper of dangerous goods must inform the National
Transport Infrastructure - DNIT, the transport flow of hazardous products shipped
By road under the terms established in specific regulations.

Notice: ANTT and DNIT will define in joint regulation the rules and procedures
Applicable to the fulfillment of this requirement, being able to articulate with other organs of the
Federal Government for mutual exchange and management of this information, aiming at
Regulatory effectiveness.

Referring to Fig.

1.1.4 Information and clarification in case of emergency or accident in the Road transport of dangerous goods

1.1.4.1 The road haulier of dangerous goods shall communicate, by means of the
System of Environmental Emergencies - SIEMA, instituted by the Brazilian Institute of
Environment and Renewable Natural Resources - IBAMA and made available in its
Address, the cases of accidents or emergencies that:

- (A) involve interruption of traffic on the road or the evacuation of persons
For more than three hours;
- B) They cause spreading, loss or spillage of dangerous product;
- (C) cause leakages or damage to packaging, large or
IBCs;
- (D) cause damage or tipping to transport equipment, such as
Tank truck, container tank and portable tanks;
- E) Need emergency assistance by the Fire Department, Defense
Civil, police agencies, specialized companies, others.

1.1.4.2 The requirement established in item 1.1.4.1 applies to interstate transportation,
Intermunicipal or municipal administration of dangerous products and its non-compliance subjects the
Penalties provided for in the Regulations for Road Transport of Dangerous Goods.

1.1.4.3 ANTT will liaise with the federal environmental agency for the exchange and
Management of this information, aiming at regulatory effectiveness.

**1.1.5 Collection of health service waste regularly instituted in the
Within the scope of local government****1.1.5.1 In the activity of transportation of health care**

Established by the local public authorities in the context of urban cleaning services,
Carriers responsible for the collection and transportation of such products shall provide the
Documentation required by Chapter 5.4 of this Regulation, including the Declaration of
Consignor established in item 5.4.1.7, personal protective equipment (PPE) and
Vehicle, as well as the correct signaling of vehicles, without prejudice to the other
Requirements laid down by the competent authorities.

1.1.5.2 The establishments which generate such waste must place such

Products in the appropriate packaging, as set out in that Regulation, as well as
(Appropriate shipping name, UN number and risk label) as
Established in Chapter 5.2.

CHAPTER 1.2**DEFINITIONS AND UNITS OF MEASUREMENT****1.2.1 Definitions**

Notice: This Chapter presents definitions of general terms of This Regulation. Definitions of very specific terms (for example, terms Construction of bulk containers or portable tanks) are Presented in the relevant chapters.

For the purposes of this Regulation:

Aerosol or aerosol dispenser - means a non - refillable container that suits Requirements of item 6.2.4, made of metal, glass or plastic containing a gas Compressed, liquefied or dissolved under pressure, with or without liquid, mass or powder, and Of a release device which allows to expel the contents in the form of solid particles Suspended in a gas, such as foam, dough or powder, or liquid or *gas*.

Alternative arrangement - means an approval granted by the competent authority for a portable tank or multi - element gas container - CGEMs which has been Designed, manufactured or tested in accordance with technical requirements or test methods Other than those specified in this Regulation (see, for example, item 6.7.5.11.1).

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

Competent authority - is any organization or designated national authority, or recognized as such, to decide on matters relating to this *Regulation*.

Wooden barrels - are made of natural wood packaging, with circular cross section, Convex walls, consisting of staves and lids and equipped with hoops.

Page 11

Drums - are plastic or metal, with rectangular cross section or polygonal.

Boxes - are packages with one - piece, rectangular or polygonal faces, made of metal, Wood, plywood, reconstituted wood, cardboard, plastic or other suitable material. Small holes, such as those intended to facilitate handling or opening, or to meet Classification requirements, are allowed, provided that they do not compromise the integrity of the Packaging during transport.

Maximum capacity - as used in item 6.1.4, is the maximum internal volume Containers or packages, expressed in liters.

Housing or tank body - is containing the substance intended for transport (tank), Including openings and their closures, but not including Structural equipment.

Fuel cell - means electrochemical device that converts chemical energy of a Fuel in electrical energy, heat and reaction products.

Cylinder - means a pressure vessel, transportable, with a capacity (in water) Not more than 150L.

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

IMDG Code - means the International Maritime Dangerous Goods Code, Regulation Application of Chapter VII, Part A, of the 1974 International Convention for the Safeguarding of Human Life at Sea (SOLAS Convention), published by the International Maritime Organization (IMO);

Cargo safe - means containment boxes with locks to be used in transport
Fractionation of dangerous incompatible products or dangerous products with other types of
Product, in order to ensure the tightness between the products in the
And the remainder of the loading.

Container - is a transport equipment which has been approved in accordance with
"International Convention on Container Safety" (CSC), 1972, and its
Changes:

- A) of a permanent character and, therefore, resistant enough to allow its
Repeated use;
- (B) specially designed to facilitate the transport of products by one or more
Various modes of transport;
- C) designed to be safe and / or readily handled, provided with
Devices that facilitate their stowage and manipulation;
- D) with dimensions such that the surface delimited by the four lower corners
Be either:
 - I. Of at least 14 m² (150 square feet), or
 - Ii. Of at least 7 m² (75 square feet) if fitted with
Of corner at the upper angles;

The term 'container' does not cover vehicles or packages. However, the term
Comprises the containers transported on a chassis. A small container is that
Has any external dimension less than 1.5m or an internal volume of up to 3.0
M³ (3,000 L). Any other container is considered a large container.

In addition, small container means a container that has internal volume up to
3 m³. Large container means a container that has an internal volume greater than 3 m³.

Container-tank - is a watertight compartment for conditioning liquids or gases,
Surrounded by a support metal structure, containing a corner device for fixing this
To the container chassis, which has been approved in accordance with the
International Convention on Container Safety (CSC) of 1972, and its amendments, which may

Be transported by any mode of transport. For transportation purposes the tank container is
Considered as bulk cargo.

Intermediates for Bulk Containers (IBCs) - are portable rigid packaging or Flexible, used for fractional transport, other than those specified in Chapter 6.1, which:

- (A) have a capacity equal to or less than:
 - (i) 3.0m³ (3.000 L) for solids and liquids of packing groups II and III;
 - (ii) 1.5 m³ (1.500 L) solids for Packing Group I, Packed in flexible IBCs, of rigid plastic, composite, of Cardboard and wood;
 - (iii) 3.0m³ (3.000 L) solids for packing group I when Packed in metallic IBCs; and
 - (iv) 3.0m³ (3.000 L) for radioactive material of Class 7.
- B) are designed for mechanical movement; and
- C) resist efforts caused by handling and transportation, As evidenced by tests.

For transportation purposes intermediate bulk containers (IBCs) are Considered as fractional load.

Multiple - element gas container (CGEMs) - means a set of rollers, tubes Or packs of cylinders interconnected by a manifold, mounted on a structure which Multimodal movement. The MEGC includes the service equipment and Structural elements necessary for the transport of gases.

For transportation purposes the multi-element gas container (MEGC) is Considered as fractional load.

Bulk container - means any containment system (including any coating Or liner) intended for the transport of solid substances which are in direct contact with the Said containment system. Does not include packaging, intermediate containers (IBCs), large containers and portable tanks.

Bulk containers must:

- be of a permanent nature and, therefore, sufficiently resistant to Repeated uses;
- be specially designed to facilitate the transport of products, without Intermediate loading and unloading operations by means of one or more means of transport;

- be fitted with devices to facilitate their prompt handling; and
- Have a capacity of not less than 1.0 m³ (1.000 L).

Examples of bulk containers are buckets, containers for *offshore* transport of bulk materials, boxes for bulk, interchangeable containers, the Trolled containers, trolley containers, compartments
For the transport of cargo in vehicles and flexible bulk containers.

Container for the offshore transport of bulk cargo - means a particular container Designed to be used repeatedly in the transportation of dangerous goods to, from, and between *offshore* facilities. This container shall be designed and manufactured in accordance with the Guidelines for the approval of containers handled in the open sea, as specified by the International Maritime Organization (IMO) in document MSC / Circ. 860.

Recipient - is any person, organization or government able to receive a shipment.

Packaging - mean one or more containers and any other components or materials Necessary for the vessel to perform its containment and other safety.

Dustproof packaging - are waterproof packaging to dry contents, including Fine solid material produced during transport.

Combination packagings - means the combination of packaging for transportation purposes, Consisting of one or more inner packagings packaged in an outer carton, In which the assembly must be in accordance with item 4.1.1.5.

Composite packaging - are packaging consisting of an outer container and An inner container, constructed in such a way as to form a single assembly. Once Assembled, becomes an integrated unit, which is bottled, stored, transported and Emptied as such.

Rescue packages - are special packages that meet the applicable provisions

Of this Regulation, which contain, for the purposes of transportation, packaging of products
 Damaged, defective, non-compliant or leaky, or dangerous products
 That have spilled or leaked, for recovery, disposal or disposal.

Big rescue package - are special packages:

- The) Are designed for mechanical movement; and
- B) Exceed 400 kg net mass or 450 L capacity, but not more than
 have a volume of up to 3 m³ in which arise for transport purposes,
 Packaging of damaged, defective, non-compliant or
 With leakage, or dangerous products that have spilled or leaked,
 Aiming at recovery, disposal or disposal.

External packaging - are external protection of a composite or combination packaging
 Together with any absorbent or cushioning materials and any other
 Components necessary to contain and protect internal containers or internal packaging.

Intermediate packaging - are packaging placed between inner packagings or articles
 And an outer carton.

Interior packaging - are packaging, for transport, require
 Packaging.

Large packs - consist of an outer packaging which contains articles or
 Packaging and that:

- A) are designed for mechanical movement; and
- (B) they exceed 400 kg net mass or 450 L capacity, but
 volume does not exceed 3.0 m³ (3.000 L).

Large packs remanufactured - mean large packs of metal or hard plastic
 Who have:

- A) have been converted to an UN type from a non-UN type; or
- B) have been converted from one UN type to another UN type.

Large remanufactured packaging is subject to the same requirements as
Which apply to new packaging.

Reconditioned packaging - are already approved containers that pass through processes
Washing, cleaning, removing of dents, restoring their shape and
Original contour and painting, without altering its original characteristics (dimensional and
Structural) so that they can support the performance tests to be
Used. They include:

(A) metal drums which:

- (I) perfectly clean, to the extent that only
Original construction, do not display any previous contents,
Internal and external corrosion, external coatings and labels;
- (Ii) restored to their original shape and contour, have borders (if
And sealed, gaskets which are not part of the
Packaging, replaced; or

18

Page 17

- (Iii) inspected after cleaning and prior to painting, do not present
Visible holes, significant reduction of material thickness,
Metal fatigue, damaged threads or locks, or other defects
Important.

(B) plastic drums and cylinders which:

- (I) perfectly clean, to the extent that only
Original construction, do not display any previous contents,
External coatings or labels;
- (Ii) have replaced gaskets which are not an integral part of the
packing; or
- (Iii) inspected after cleaning, show no visible damage, such as
Tears, creases, cracks, damaged threads or locks, or other
Significant defects.

The reconditioned packagings are subject to the same requirements as those
Which apply to new packaging.

Remanufactured packaging - packaging are passing by washing processes,
Cleaning, removal of dents, alteration of their original characteristics

(Dimensional and structural) and of painting, so that they can withstand the tests of To be reused. They include:

(A) metal drums having:

- (I) have been converted to an UN type from a non-UN type;
- (Ii) have been converted into one UN type from another UN type; or
- (Iii) undergoing substitution of structural components (such as Non-removable).

(B) plastic drums having:

- (I) have been converted into one UN type from another UN type (eg 1H1 for 1H2); or
- (Ii) undergoing substitution of structural components.

The remanufactured packaging is subject to the same requirements as Which apply to new packaging.

Reusable packaging - are packaging, including large packagings, which may be Used more than once by a distribution network controlled by the consignor, in order to Transport of identical or similar compatible dangerous products, provided that they are inspected and Considered free from defects that could compromise their integrity and ability to Support the performance tests.

Simple packaging - packaging consist of a single container vessel and not Need an external packaging to be transported.

EN (default) - means a European standard published by European Committee for Standardization (CEN) (CEN - 36 rue de Stassart, B-1050 Brussels, Belgium);

Crates - are outer packagings with incomplete surfaces.

Expedition - is any volume, or volume, or loading of dangerous goods delivered For transportation by a shipper.

Shipper - is any person, organization or government that prepares an expedition to transport.

Closures - are devices that lock an opening in a container.

Lining - is a tube or bag inserted into a packaging (including IBCs and packaging large), but that is not an integral part of it, including the closures of its *openings*.

20

Page 19

Compliance assurance - is a systematic program of control applied by the authority Competent to ensure compliance with the provisions of this Regulation.

Quality assurance - is a systematic program of controls and inspections applied by a Body or entity to ensure that the safety Regulation are *met*.

GHS - means the Globally Harmonized System of Classification and Labelling Chemicals, published by the United Nations in the form of the ST / SG / AC.10 / 30 / Rev5.

IAEA - means International Atomic Energy Agency (IAEA, PO Box 100 - -1400 Vienna, Austria);

IBC remanufactured - means a metal IBC, rigid plastics or composite that as Impact or any other cause (for example, corrosion, Or any other sign of loss of strength compared to the standard model) is Restored, so as to conform to the standard design, and Type design trials. For the purposes of this Regulation, it shall be deemed to be The rigid inner receptacle of an IBC consisting of a receptacle which meets the Manufacturer's original specification, of the same approved type design. However, Considers reconditioning the periodic inspection of the rigid IBC. The bodies of the IBCs of Rigid plastic and the inner containers of the compound IBCs are not reconditionable, being Subject only to periodic inspection in accordance with Inmetro regulations. IBCs May not be reconditioned unless authorized by the competent authority. competent.

IBC remanufactured - means IBC metal, rigid plastics or composite that has:

(A) has been converted to an UN type from a non-UN type;

21

Page 20

(B) converted from one type UN to another type UN;

(C) the altered original type design, upon exchange or replacement of its
Structural elements, such as rebottling, valves,
Of covers, etc.

Remanufactured IBCs are subject to the same requirements as those
New IBCs of the same type (see also the definition of type design in
6.5.6.1.1).

Criticality Safety Index - is a number assigned to a package, overpack
or container containing fissile material, for transporting radioactive material, used with
purpose of providing control of the accumulation of volumes, overpacks or containers
containing fissionable materials.

Transport index - is a number assigned to a package, overpack, tank or
container with radioactive material or LSA-I material or SCO-I in bulk, for transportation of
radioactive material with the purpose of providing control of exposure to radiation.

ISO - means an international standard published by the International Organization for
Standardization (ISO -1, ch. De la Voie-Creuse, CH-1211, Switzerland)

Net - means that a dangerous product at 50 ° C has a vapor pressure of at most
300 kPa (3 bar), which is not completely gaseous at 20 ° C and a pressure of 101,3 kPa, and
has a melting point or initial melting point equal to or below 20 ° C at a pressure of
101.3 kPa. A viscous substance whose melting point can not be determined in a manner
You need to be subjected to the ASTM D 4359-90 test or to the test for determining
fluidity (penetrometer test) described in section 2.3.4 of Annex A to the Agreement *European
Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) (1)* .

Tests and Criteria Manual - means the fifth revised edition of the publication of Nations
United entitled "*Recommendations on the Transport of Dangerous Goods, Manual
Tests and Criteria*." (ST / SG / AC.10 / 11 / Rev.5 and Amend.1)

(1) - Publication of the United Nations ECE / TRANS / 215

Page 21

Periodic inspection of flexible IBC - means the execution, on a flexible plastic or IBC textiles, routine operations such as:

(the cleaning; or

(B) substitution of non-integral components, such as coatings or fasteners for components according to the original specifications manufacturer.

provided that such operations do not adversely effect the IBC containment function flexible or alter the design type.

Periodic inspection of a rigid IBC - means the execution, by the authority competent, an inspection in accordance with a quality assurance program in order to ensure that every metal IBC, rigid plastics or composite meets requirements regulations , *may comprise*:

(the cleaning;

(B) removal and reinstallation or replacement of locks on the body (including associated gaskets), or of service equipment, according to the original manufacturer's specifications, provided that the check tightness of the IBC; or

(C) restoration of structural elements that do not perform directly no hazardous materials containment function or function holding the casting pressure, so that the IBC meet again in accordance with the design type (eg, strengthening support or skates or lashings lifting) as long as it is not affected the IBC containment function;

Maximum net mass - is the mass referring to the maximum content of a single package or maximum combined mass of inner packagings with their contents, expressed in kg.

Liquid explosive mass - means the total mass of explosive substance without packaging, cartridges, etc. (The terms "net quantity of explosive," "content

liquid explosive "or" Net Explosive "are often used as the same meaning).

Animal Material - means animal carcass of the animal or animal body to feeding.

Recycled plastic - is the material recovered from used industrial packagings that They have been cleaned and processed for use in the manufacture of new packaging. At Specific properties of the recycled material used in the production of new packagings They must be guaranteed and regularly documented as part of a warranty program quality recognized by the competent authority. The quality assurance program should include an appropriate pre-selection registration and verification that each batch of material recycled plastic has melt flow rate, density and elastic limit comparable with the design type manufactured from such recycled material. This necessarily includes knowledge original packing material recycled material generated, and the contents those previous packagings, if these contents are capable of reducing the quality new packaging produced from material used. Furthermore, the program quality control of packaging manufacturer, in accordance with paragraph 6.1.1.4, should include the execution of a mechanical test carried out on design type, provided for in item 6.1.5, to packaging produced in each batch of recycled plastic material. Running the test stacking should be verified by appropriate dynamic compression test instead of static loading test.

Notice: *The ISO 16103: 2005 "Packaging - transport packages for dangerous goods - Recycles plastics materials ", provides additional guidance on procedures to be followed for approval of the use of recycled plastics.*

Engine fuel cell - means a device used to trigger equipment and It consists of a *stack* of fuel and its fuel supply, whether integrated or separated from the *stack* of fuel, and that includes all the necessary accessories for the performance of its functions.

ICAO - means International Civil Aviation Organization (ICAO).

OECD - means Organization for Economic Cooperation and Development.

IMO - means the International Maritime Organization (IMO).

UN - means the United Nations.

Inspection body - means an independent inspection and testing accredited by the competent authority.

Packages cylinder - means a set of rollers together and interconnected by a tube collector and transported as a unit. The total capacity (in water) should not exceed 3.0 m³ (3,000 L), except in the case of packages intended for the transport of gases Subclass 2.3, in which case the limit should be 1.0 m³ (1,000 L) capacity (water).

Test pressure - means the pressure to be applied during a pressure test for obtaining or renewal of the approval .

Working pressure - means the settled pressure of a compressed gas to a 15 ° C reference temperature in a container under full pressure .

Settled pressure - means the pressure reached by the contents of a container under pressure in thermal equilibrium and diffusion.

Dangerous product - means product that has the potential to cause damage or pose a risk to health, safety and environment, classified according to the criteria set out in this Regulations and Tests and Criteria Manual published by the UN.

Toiletries, cosmetics and perfumes - are preparations consisting of natural or synthetic substances, for external use on various parts of the human body, skin,

25

hair system, nails, lips, external genital organs, teeth and membranes, mucosal oral cavity, with the exclusive or main purpose of cleaning them, perfuming them, changing their appearance or correcting body odors and or protecting them or keeping them in good condition.

Packing ratio - meaning the ratio between the gas mass and the mass of water at 15 ° C that would fill completely a pressure vessel prepared for use .

Containers - are containment vessels for receiving and containing substances or articles, including any closure means.

Cryogenic container - means a transportable and thermally insulated container for the transport of refrigerated liquefied gases, with a capacity (water) not exceeding 1.0 m³ (1.000 L).

Open cryogenic container - means a transportable container and thermally insulated for the transport of refrigerated liquefied gases maintained at atmospheric pressure by continuous venting of the refrigerated liquefied gas.

Pressure rescue container - means a pressure vessel with capacity (water) not exceeding 1.0 m³ (1.000 L) in which they arise, for transport containers under pressure damaged, defective, nonconforming or leaking, in order to recovery, disposal or disposal.

Inner containers - are containers that require an external packaging for perform its containment function.

Pressure vessel - is a collective term that includes cylinders, tubes, pressure drums, closed cryogenic containers, storage systems, metal hydrides, packages pressure cylinders and rescue containers.

Redispatching - is the operation of carriers in which a service provider

Page 25

transport (redespachante) hires other transport service provider (redespachado) loading with transfer to effect transport of the path, generating a New Knowledge Cargo Transport, and the redespachante takes the dispatcher responsibilities.

Shipping - is the specific movement of a shipment between a source and a destination.

Bags - are flexible packaging made of paper, plastic film, textiles, woven material or other suitable materials.

Metal hydride storage systems - means a simple and complete system Hydrogen storage, comprising a container, metal hydride device

pressure relief, shutdown valve, service equipment and internal components used only for transporting hydrogen.

Overpack - is an enclosure used by a single consignor to house one or more volume, forming one unit for convenience of handling and stowage during transport.

Examples of overpacks the packaging:

- a) placed or stacked on a loading board (e.g., a pallet), secured by straps, for corrugated or elastic wrap, or other appropriate means; or
- b) placed in a protective outer packaging (eg, cash, movie plastic or crate).

Solid - non-gaseous dangerous products which do not meet the definition of *liquids* contained in this section.

Subcontracting - is the operation of carriers in which a service provider transport (subcontractor) hires other transport service provider (subcontractor) the origin of the service and before starting the expedition, to make shipping all the way, creating a new Knowledge Cargo Transport, assuming

27

Page 26

this responsibility as a carrier, remaining dispatcher who prepared the expedition at the source.

Substance at elevated temperature - means a substance which is to be transported or presented for transport:

- Liquid at a temperature of 100 ° C or more;
- Liquid with a flash point of over 60 ° C and which is intentionally heated to a temperature above its point of glow; or
- Solid state at a temperature not exceeding 240 ° C.

Drums - are cylindrical containers with flat or convex edges, made of metal, cardboard, plastic, plywood or other suitable material. This definition includes, Also, packages with other formats (eg packaging with tapered neck or packaging bucket-shaped). Wooden barrels and jerricans are not included in this

definition.

Pressure drum - means a container under soldier transportable pressure with capacity (water) of more than 150 G and at most 1.0 m³ (1,000 U) (e.g., containers Cylindrical provided shooting hoops or balls on platforms).

Tank - means a portable tank (see section 6.7.2.1), including container-tank, caminhão-tank, tank car or container for containing solid, liquid or gases, having a capacity equal to or greater than 450 L, when used for gas transport as defined in item 2.2.1.1.

Portable tank :

- a) substances for transport purposes Class 1 and Class 3 to 9, is multimodal portable tank. It includes a housing with equipment

28

Page 27

structural and service required for the transport of substances dangerous;

- b) for liquefied gas transportation purposes non-refrigerated Class 2, is multimodal tank with a capacity exceeding 450 L. Includes casting the structural equipment and services needed for the gas transport; and
- c) for transport of refrigerated liquefied gases, it is a tank thermally insulated, with a capacity of 450 L, with structural and service equipment necessary for the transport of gases refrigerated liquefied.

The portable tank must be loaded and unloaded without removal of its structural equipment. Must have external stabilizers devices to housing and capable of being lifted when full. It should be designed primarily to be placed in a transport vehicle and being fitted with current frames or accessories to facilitate mechanical handling. Tanker, tank car, non-metallic tank, gas cylinder, large container and intermediate container for bulk (IBCs) are not included in this definition.

For transportation purposes, the portable tank is considered as fractional load, except when fit the container definition as set forth in the "Convention International Conference on Container Security "(CSC), 1972, as amended.

Critical temperature - mean temperature above which the substance can not remain in liquid state .

Carrier - is any person, organization or government that makes the transport dangerous goods by any mode of transport. The term includes companies carriers, independent carriers and the load itself.

Tube - means a pressure vessel, solderless, transportable, with capacity (water) higher than 150 U, but not more than 3.0 m³ (3.000 L).

29

Page 28

Mobile Unit Pump (UMB) - means road vehicle tank (s), pump (s) and accessories intended for carrying the emulsion-based bulk to the site employment, awareness and pumping explosive emulsion type, as well as manufacture and application of explosive type ANFO at the place of employment. In the UMB can be included security compartment for explosives for segregation of explosives packed. UMB is also known as "MEMU" (Mobile Explosives Manufacturing Unit).

Vehicle - means any road vehicle (including articulated vehicle, ie a combination of tractor and trailer or semi-trailer) or any rail vehicle. Each trailer or Semi-trailer must be considered as a separate vehicle.

Volumes - are the complete result of the packaging operation, packaging consisting of with its contents prepared for transport.

Examples of clarifying certain terms defined herein:

The explanations and examples are intended to make more clear the use some of the terms defined in this section.

The definitions in this section are consistent with the use of terms throughout this Regulation. However, some of the defined terms are commonly used in other form. This is particularly evident regarding the term "inner receptacle" which has often been used to describe the "inners" of a combination packaging.

The "inners" of "combination packagings" are always termed

"Inner packagings" not "inner receptacles". A glass bottle is an example of "Inner packaging".

The "inners" of "composite packaging" are usually called "inner receptacles". For example, the "inside" of a package composite (plastic) 6HA1 is one of those "inner containers" because normally not It is designed to perform a containment function without its "outer packaging", not and thus an "inner package."

30

Page 29
1.2.2 measurement units

1.2.2.1 The units of measure ^(a) below are used in this Regulation:

measure	SI unit ^(b)	Unit acceptable alternative	Relationship between units
Length	m (meter)	-	-
Area	m ² (square meter)	-	-
Volume	m ³ (cubic meter)	L (liter)	1 L = 10 ⁻³ m ³
Time	s (second)	min (minutes) h (hour) d (days)	1 min = 60 s 1 h = 3.600 s 1 d = 86.400 s
Pasta	kg (kilogram)	g (gram) t (ton)	1 g = 10 ⁻³ kg 1 t = 10 ³ kg
Bulk Density	kg / m ³	kg / l	1 kg / L = 10 ³ kg / m ³
Temperature	K (Kelvin)	° C (degrees Celsius)	0 °C = 273,15K
temperature difference	K (Kelvin)	° C (degrees Celsius)	1 ° C = 1 K
Force	N (Newton)	-	1 N = 1 kg m / s ²
Pressure	Pa (Pascal)	bar (bar)	1 bar = 10 ⁵ Pa 1 Pa = 1 N / m ²
Voltage	N / m ²	N / mm ²	1 N / mm ² = 1 MPa
Job	J (Joule)	kWh (quilowatt.hora)	1 kWh = 3.6 MJ
Energy	J (Joule)		1 J = 1 Nm = 1 Ws
Heat quantity	J (Joule)	eV (electron-volt)	1 eV = 0.1602 x 10 ⁻¹⁹ J
Power rating	W (Watt)	-	1 W = 1 J / s = 1 Nm / 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)	-	Pa.s -
equivalent dose	Sv (sievert)	-	-

31

Page 30

Notes relating to item 1.2.2.1:

(a) for the conversion of units used here in SI units, apply the following rounded values:

*Force**Voltage*

$$1 \text{ kg} = 9,807 \text{ N}$$

$$1 \text{ kg} / \text{mm}^2 = 9,807 \text{ N} / \text{mm}^2$$

$$1 \text{ N} = 0.102 \text{ kg}$$

$$1 \text{ N} / \text{mm}^2 = 0.102 \text{ kg} / \text{mm}^2$$

Pressure

$$1 \text{ Pa} = 1 \text{ N} / \text{m}^2 = 10^{-5} \text{ bar} = 1.02 \times 10^{-5} \text{ kg} / \text{cm}^2 = 0.75 \times 10^{-2} \text{ torr}$$

$$1 \text{ bar} = 10^5 \text{ Pa} = 1.02 \text{ kg} / \text{cm}^2 = 750 \text{ torr}$$

$$1 \text{ kg} / \text{cm}^2 = 9.807 \times 10^4 \text{ Pa} = 0.9807 \text{ bar} = 736 \text{ torr}$$

$$1 \text{ torr} = 1.33 \times 10^2 \text{ Pa} = 1.33 \times 10^{-3} \text{ bar} = 1.36 \times 10^{-3} \text{ kg} / \text{cm}^2$$

Energy, Work, Quantity of heat

$$1 \text{ J} = 1 \text{ Nm} = 0.278 \times 10^{-6} \text{ K} = 0.102 \text{ kgm} = 0.239 \times 10^{-3} \text{ kcal}$$

$$1 \text{ kWh} = 3.6 \times 10^6 \text{ J} = 367 \times 10^3 \text{ kgm} = 860 \text{ kcal}$$

$$1 \text{ kgm} = 9.807 \text{ J} = 2.72 \times 10^{-6} \text{ kWh} = 2.34 \times 10^{-3} \text{ kcal}$$

$$1 \text{ kcal} = 4.19 \times 10^3 \text{ J} = 1.16 \times 10^{-3} \text{ kWh} = 427 \text{ kgm}$$

*Power rating**Kinematic viscosity*

$$1 \text{ W} = 0.102 \text{ kgm} / \text{s} = 0.86 \text{ kcal} / \text{h}$$

$$1 \text{ m}^2 / \text{s} = 10^4 \text{ St (Stokes)}$$

$$1 \text{ kgm} / \text{s} = 9,807 \text{ W} = 8.43 \text{ kcal} / \text{h}$$

$$1 \text{ St} = 10^{-4} \text{ m}^2 / \text{s}$$

$$1 \text{ Kcal} / \text{h} = 1.16 \text{ W} = 0.119 \text{ kgm} / \text{s}$$

dynamic viscosity

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

(b) *International System of Units (SI) is the result of decisions taken in*

Weights and Measures General Conference (Address: Pavillon de Breteuil, Parc de St-Cloud, F-92 310 Sèvres).

The decimal multiples and sub-multiples of a unit can be formed by prefixes or symbols, with meanings below, placed before the name or symbol unit:

Factor			prefix	Symbol
1 000 000 000 000 000 000	$= 10^{18}$	quintillion	exa	AND
1 000 000 000 000 000	$= 10^{15}$	quadrillion	tridecillion	P
1 000 000 000 000	$= 10^{12}$	trillion	trillion	T
1000000000	$= 10^9$	billion	giga	G
1000000	$= 10^6$	million	mega	M

33

Page 32

1000	$= 10^3$	thousand	kilo	K
100	$= 10^2$	hundred	hecto	h
10	$= 10^1$	ten	deca	gives
0.1	$= 10^{-1}$	tenth	deci	d
0.01	$= 10^{-2}$	hundredth	centi	w
0.001	$= 10^{-3}$	thousandth	mili	M
0.000 001	$= 10^{-6}$	millionth	micro	μ

0.000 000 001	= 10 ⁻⁹	billionth	n nano	
0,000 000 000 001	= 10 ⁻¹²	trillionth	peak	P
0,000 000 000 000 001	= 10 ⁻¹⁵	quatrillionésimo	femto	f
0,000 000 000 000 000 001	= 10 ⁻¹⁸	quintillionésimo	atto	The

Notice: $10^9 = 1$ billion corresponds to the use of the United Nations in English. By analogy, it follows that $10^{-9} = 1$ billionth.

1.2.2.2 Except as otherwise provided, whenever mentioned the mass of a volume, the term means gross mass. The mass of containers or tanks used for the transportation of goods is not included in the gross mass.

1.2.2.3 Unless otherwise noted, the "%" sign is:

- a) in the case of solid or liquid mixtures, and also in the case of wet solutions and solids with a liquid: a percentage mass based on the total weight of the mixture, solution or moistened solid;
- b) in the case of mixtures of compressed gases: When packaged by pressure, proportion of the volume indicated as a percentage of the volume total gas mixture or, if packaged by mass, the proportion of mass indicated as a percentage of the total weight of the mixture;

In the case of liquefied gases and mixtures of gases dissolved under pressure, the proportion of the mass indicated as a percentage of the total mixture mass.

1.2.2.4 Pressures of any kind relating to containers (such as test pressure, internal pressure, safety valve opening pressure) are always indicated in gauge pressure (pressure above atmospheric pressure). However, the vapor pressure of substances is always expressed in absolute pressure.

