

Chapter 3.3**Special provisions applicable to certain substances, materials or articles****3.3.1 When column 6 of the Dangerous Goods List indicates that a special provision is relevant to a dangerous good, the meaning and requirement(s) of that special provision are as set out below:**

Special provisions applicable to certain substances, materials or articles	
16	Samples of new or existing explosive substances or articles may be transported as directed by the competent authority for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitized shall be limited to 10 kg in small packages as specified by the competent authority. Explosive samples which are wetted or desensitized shall be limited to 25 kg.
23	Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas.
26	This substance is not permitted for transport in portable tanks, or intermediate bulk containers with a capacity exceeding 450 l, due to the potential initiation of an explosion when transported in large volumes.
28	This substance may be transported under the provisions of class 4.1 only if it is so packaged that the percentage of diluent will not fall below that stated, at any time during transport (see 2.4.2.4).
29	The packages, including bales, are exempt from labelling provided that they are marked with the appropriate class (e.g., "class 4.2"). Packages, with the exception of bales, shall also display the Proper Shipping Name and the UN Number of the substance that they contain in accordance with 5.2.1. In any case, the packages, including bales, are exempt from class marking provided that they are loaded in a cargo transport unit and that they contain goods to which only one UN Number has been assigned. The cargo transport units in which the packages, including bales, are loaded shall display any relevant labels, placards and marks in accordance with chapter 5.3.
32	When in any other form, this substance is not subject to the provisions of this Code.
37	When coated, this substance is not subject to the provisions of this Code.
38	This substance, when it contains not more than 0.1% calcium carbide, is not subject to the provisions of this Code.
39	This substance, when it contains less than 30% or not less than 90% silicon, is not subject to the provisions of this Code.
43	When offered for transport as pesticides, these substances shall be transported under the relevant pesticide entry and in accordance with the relevant pesticide provisions (see 2.6.2.3 and 2.6.2.4).
45	Antimony sulphides and oxides which contain not more than 0.5% of arsenic, calculated on the total mass, are not subject to the provisions of this Code.
47	Ferricyanides and ferrocyanides are not subject to the provisions of this Code.
59	These substances, when they contain not more than 50% magnesium, are not subject to the provisions of this Code.
61	The technical name, which shall supplement the Proper Shipping Name, shall be the ISO common name, or other name listed in 'The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification' or the name of the active substance (see also 3.1.2.8.1.1).
62	This substance, when it contains not more than 4% sodium hydroxide, is not subject to the provisions of this Code.


63	<p>The division of class 2 and the subsidiary risks depend on the nature of the contents of the aerosol dispenser. The following provisions shall apply:</p> <p>.1 Class 2.1 applies if the contents include 85% by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more;</p> <p>.2 Class 2.2 applies if the contents contain 1% by mass or less flammable components and the heat of combustion is less than 20 kJ/g.</p> <p>.3 Otherwise the product shall be classified as tested by the tests described in the United Nations Manual of Tests and Criteria, Part III, section 31. Extremely flammable and flammable aerosols shall be classified in class 2.1; non-flammable in class 2.2;</p> <p>.4 Gases of class 2.3 shall not be used as a propellant in an aerosol dispenser;</p> <p>.5 Where the contents other than the propellant of aerosol dispensers to be ejected are classified as class 6.1 packing groups II or III or class 8 packing groups II or III, the aerosol shall have a subsidiary risk of class 6.1 or class 8;</p> <p>.6 Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall be prohibited from transport;</p> <p>.7 Except for consignments transported in limited quantities (see chapter 3.4), packages containing aerosols shall bear labels for the primary risk and for the subsidiary risk(s), if any. Flammable components are 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 United Nations 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.</p>
65	Hydrogen peroxide aqueous solutions with less than 8% hydrogen peroxide are not subject to the provisions of this Code.
66	<u>Cinnabar is not subject to the provisions of this Code.</u> (👉 Amended by Res.MSC.372(93))
76	The transport of this substance shall be prohibited except with special authorization granted by the competent authority of the country concerned.
105	Nitrocellulose meeting the descriptions of UN 2556 or UN 2557 may be classified in class 4.1.
113	The transport of chemically unstable mixtures is prohibited.
117	Only regulated when transported by sea.
119	Refrigerating machines and refrigerating machinery components including machines or other appliances which have been designed for the specific purpose of keeping food or other items at a low temperature in an internal compartment, and air-conditioning units. Refrigerating machines and refrigerating machine components are not subject to the provisions of this Code if they contain less than 12 kg of gas in class 2.2 or less than 12 l of ammonia solution (UN 2672).
122	The subsidiary risk(s), the control and emergency temperatures, if any, and the generic entry number for each of the currently assigned organic peroxide formulations are given in 2.5.3.2.4, 4.1.4.2 packing instruction IBC520 and 4.2.5.2.6 portable tank instruction T23 . (👉 Added by Res.MSC.372(93))
127	Other inert material or inert material mixture may be used at the discretion of the competent authority, provided this inert material has identical phlegmatizing properties.
131	The phlegmatized substance shall be significantly less sensitive than dry PETN.
133	If over-confined in packagings, this substance may exhibit explosive behaviour. Packagings authorized under packing instruction P409 are intended to prevent over-confinement. When a packaging other than those prescribed under packing instruction P409 is authorized by the competent authority of the country of origin in accordance with 4.1.3.7, the package shall bear an "EXPLOSIVE" subsidiary risk label (Model No. 1, see 5.2.2.2.2) unless the competent authority of the country of origin has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not

	exhibit explosive behaviour (see 5.4.1.5.5.1). The provisions of 7.2.3.3, 7.1.3.1 and 7.1.4.4 shall also be considered.
135	<u>The dihydrated sodium salt of dichloroisocyanuric acid does not meet the criteria for inclusion in Class 5.1 and is not subject to the provisions of this Code unless meeting the criteria for inclusion in another Class or Division</u>
138	p-Bromobenzyl cyanide is not subject to the provisions of this Code.
141	Products which have undergone sufficient heat treatment so that they present no hazard during transport are not subject to the provisions of this Code.
142	Solvent-extracted soya bean meal containing not more than 1.5% oil and 11% moisture, being substantially free from flammable solvents, which is accompanied by a certificate from the shipper stating that the substance, as offered for shipment, meets this requirement is not subject to the provisions of this Code.
144	An aqueous solution containing not more than 24% alcohol by volume is not subject to the provisions of this Code.
145	Alcoholic beverages of packing group III, when transported in receptacles of 250 l or less, are not subject to the provisions of this Code.
152	The classification of this substance will vary with particle size and packaging, but borderlines have not been experimentally determined. Appropriate classifications shall be made as required by 2.1.3.
153	This entry applies only if it is demonstrated, on the basis of tests, that the substance, when in contact with water, is not combustible nor shows a tendency to auto-ignition and that the mixture of gases evolved is not flammable.
163	A substance specifically listed by name in the Dangerous Goods List shall not be transported under this entry. Materials transported under this entry may contain 20% or less nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).
168	Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during transport is not subject to the provisions of this Code. Manufactured articles containing asbestos and not meeting this provision are nevertheless not subject to the provisions of this Code when packaged so that no escape of hazardous quantities of respirable asbestos fibres can occur during transport.
169	Phthalic anhydride in the solid state and tetrahydrophthalic anhydride, with not more than 0.05% maleic anhydride, are not subject to the provisions of this Code. Phthalic anhydride molten at a temperature above its flashpoint, with not more than 0.05% maleic anhydride, shall be classified under UN 3256.
172	<p><u>Where a radioactive material has (a) subsidiary risk(s):</u></p> <p><u>.1 The substance shall be allocated to Packing Group I, II or III, if appropriate, by application of the packing group criteria provided in part 2 corresponding to the nature of the predominant subsidiary risk;</u></p> <p><u>.2 Packages shall be labelled with subsidiary risk labels corresponding to each subsidiary risk exhibited by the material; corresponding placards shall be affixed to cargo transport units in accordance with the relevant provisions of 5.3.1;</u></p> <p><u>.3 For the purposes of documentation and package marking, the proper shipping name shall be supplemented with the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s) and which shall be enclosed in parenthesis;</u></p>

	<p><u>.4 The dangerous goods transport document shall indicate the subsidiary class or division and, where assigned the packing group as required by 5.4.1.4.1.4 and 5.4.1.4.1.5. For packing, see also 4.1.9.1.5.)</u></p>
177	Barium sulphate is not subject to the provisions of this Code.
178	This entry shall be used only when no other appropriate entry exists in the list, and only with the approval of the competent authority of the country of origin.
181	Packages containing this type of substance shall bear the "EXPLOSIVE" subsidiary risk label (Model No. 1, see 5.2.2.2.2) unless the competent authority of the country of origin has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour (see 5.4.1.5.5.1). The provisions of 7.2.3.3 shall also be considered.
182	The group of alkali metals includes lithium, sodium, potassium, rubidium and caesium.
183	The group of alkaline earth metals includes magnesium, calcium, strontium and barium.
186	In determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate.
188	<p>Cells and batteries offered for transport are not subject to other provisions of this Code if they meet the following:</p> <p>.1 For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and for a lithium-ion cell, the watt-hour rating is not more than 20 W h;</p> <p>.2 For a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g, and for a lithium-ion battery, the watt-hour rating is not more than 100 W h. Lithium-ion batteries subject to this provision shall be marked with the watt-hour rating on the outside case, except those manufactured before 1 January 2009;</p> <p>.3 Each cell or battery meets the provisions of 2.9.4.1 and 2.9.4.5;</p> <p>.4 Cells and batteries, except when installed in equipment, shall be packed in inner packagings that completely enclose the cell or battery. Cells and batteries shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit. The inner packagings shall be packed in strong outer packagings which conform to the provisions of 4.1.1.1, 4.1.1.2, and 4.1.1.5.</p> <p>.5 Cells and batteries when installed in equipment shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation. This requirement does not apply to devices which are intentionally active in transport (radio frequency identification (RFID) transmitters, watches, sensors, etc.) and which are not capable of generating a dangerous evolution of heat. When batteries are installed in equipment, the equipment shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained.</p> <p>.6 Except for packages containing button cell batteries installed in equipment (including circuit boards), or no more than four cells installed in equipment or no more than two batteries installed in equipment, each package shall be marked with the following:</p> <ul style="list-style-type: none"> (i) an indication that the package contains "lithium metal" or "lithium ion" cells or batteries, as appropriate; (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;

	<p>(iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and</p> <p>(iv) a telephone number for additional information.</p> <p>.7 Each consignment of one or more packages marked in accordance with paragraph .6 shall be accompanied with a document including the following:</p> <p>(i) an indication that the package contains "lithium metal" or "lithium ion" cells or batteries, as appropriate;</p> <p>(ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;</p> <p>(iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and</p> <p>(iv) a telephone number for additional information.</p> <p>.8 Except when batteries are installed in equipment, each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents; and</p> <p>.9 Except when batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass. As used above and elsewhere in this Code, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell. Separate entries exist for lithium metal batteries and lithium ion batteries to facilitate the transport of these batteries for specific modes of transport and to enable the application of different emergency response actions.</p>
190	Aerosol dispensers shall be provided with protection against inadvertent discharge. Aerosols with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the provisions of this Code.
191	Receptacles with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the provisions of this Code.
193	This entry may only be used for uniform ammonium nitrate based fertilizer mixtures of the nitrogen, phosphate or potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material. Fertilizers within these composition limits are not subject to the provisions of this Code when shown by a Trough Test (see United Nations Manual of Tests and Criteria, Part III, sub-section 38.2) that they are not liable to self-sustaining decomposition.
194	The control and emergency temperatures, if any, and the generic entry number for each of the currently assigned self-reactive substances are given in 2.4.2.3.2.3.
195	For certain organic peroxides types B or C, a smaller packaging than that allowed by packing methods OP5 or OP6 respectively has to be used (see 4.1.7 and 2.5.3.2.4).
196	Formulations which, in laboratory testing, neither detonate in the cavitated state nor deflagrate, which show no effect when heated under confinement and which exhibit no explosive power may be transported under this entry. The formulation must also be thermally stable (i.e., the SADT is 60°C or higher for a 50 kg package). Formulations not meeting these criteria shall be transported under the provisions of class 5.2 (see 2.5.3.2.4).
198	Nitrocellulose solutions containing not more than 20% nitrocellulose may be transported as paint, perfumery products or printing ink, as applicable. See UN Nos. 1210, 1263, 1266, 3066, 3469 and 3470

199	Lead compounds which, when mixed in a ratio of 1:1000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23°C ± 2°C, exhibit a solubility of 5% or less (see ISO 3711:1990 "Lead chromate pigments and lead chromate-molybdate pigments - Specifications and methods of test") are considered insoluble and are not subject to the provisions of this Code unless they meet the criteria for inclusion in another hazard class.
201	Lighters and lighter refills shall comply with the provisions of the country in which they were filled. They shall be provided with protection against inadvertent discharge. The liquid portion of the gas shall not exceed 85% of the capacity of the receptacle at 15°C. The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at 55°C. The valve mechanisms and ignition devices shall be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during transport. Lighters shall not contain more than 10 g of liquefied petroleum gas. Lighter refills shall not contain more than 65 g of liquefied petroleum gas.
203	This entry shall not be used for polychlorinated biphenyls, UN 2315.
204	Articles containing smoke-producing substance(s) corrosive according to the criteria for class 8 shall be labelled with a "CORROSIVE" subsidiary risk label (Model No. 8, see 5.2.2.2.2).
205	This entry shall not be used for PENTACHLOROPHENOL, UN 3155.
207	Polymeric beads and moulding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.
208	The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the provisions of this Code.
209	The gas shall be at a pressure corresponding to ambient atmospheric pressure at the time the containment system is closed and this shall not exceed 105 kPa absolute.
210	Toxins from plant, animal or bacterial sources which contain infectious substances, or toxins that are contained in infectious substances, shall be classified under class 6.2.
215	This entry only applies to the technically pure substance or to formulations derived from it, having an SADT higher than 75°C, and, therefore, does not apply to formulations which are self-reactive substances (for self-reactive substances, see 2.4.2.3.2.3). Homogeneous mixtures containing not more than 35% by mass of azodicarbonamide and at least 65% of inert substance are not subject to this Code unless criteria of other classes are met.
216	Mixtures of solids which are not subject to the provisions of this Code and flammable liquids may be transported under this entry without first applying the classification criteria of class 4.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Each cargo transport unit shall be leakproof when used as a bulk container. Sealed packets and articles containing less than 10 ml of a packing group II or III flammable liquid absorbed into a solid material are not subject to the provisions of this Code provided there is no free liquid in the packet or article.
217	This entry shall only be used for mixtures of solids which are not subject to the provisions of this Code and toxic liquids may be transported under this entry without first applying the classification criteria of class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Each cargo transport unit shall be leakproof when used as a bulk container. This entry shall not be used for solids containing a packing group I liquid.

218	This entry shall only be used for mixtures of solids which are not subject to the provisions of this Code and corrosive liquids may be transported under this entry without first applying the classification criteria of class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Each cargo transport unit shall be leakproof when used as a bulk container. This entry shall not be used for solids containing a packing group I liquid.
219	Genetically modified microorganisms (GMMOs) and genetically modified organisms (GMOs) packed and marked in accordance with packing instruction P904 are not subject to any other provisions of this Code. If GMMOs or GMOs meet the definition in chapter 2.6 of a toxic substance or an infectious substance and the criteria for inclusion in class 6.1 or 6.2, the provisions of this Code for transporting toxic substances or infectious substances apply.
220	The technical name of the flammable liquid component only of this solution or mixture shall be shown in parentheses immediately following the Proper Shipping Name.
221	Substances included under this entry shall not be of packing group I.
223	If the chemical or physical properties of a substance covered by this description are such that, when tested, it does not meet the established defining criteria for the class or division listed in column 3, or any other class or division, it is not subject to the provisions of this Code except in the case of a marine pollutant where 2.10.3 applies.
224	Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance shall remain liquid during normal transport conditions. It shall not freeze at temperatures above -15°C.
225	<u>Fire extinguishers under this entry may include installed actuating cartridges (cartridges, power device of division 1.4C or 1.4S) without changing the classification of class 2.2 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per extinguishing unit. Fire extinguishers shall be manufactured, tested, approved and labelled according to the provisions applied in the country of manufacture. Fire extinguishers under this entry include:</u> <u>.1 portable fire extinguishers for manual handling and operation;</u> <u>.2 fire extinguishers for installation in aircraft;</u> <u>.3 fire extinguishers mounted on wheels for manual handling;</u> <u>.4 fire extinguishing equipment or machinery mounted on wheels or wheeled platforms or units transported similar to (small) trailers, and</u> <u>.5 fire extinguishers composed of a non-rollable pressure drum and equipment, and handled e.g. by fork lift or crane when loaded or unloaded.</u>  <u>Added by Res.MSC.372(93))</u>
226	Formulations of these substances containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to the provisions of this Code.
227	When phlegmatized with water and inorganic inert material, the content of urea nitrate may not exceed 75% by mass and the mixture shall not be capable of being detonated by the Series 1, type (a) test in the United Nations Manual of Tests and Criteria, Part I.
228	Mixtures not meeting the criteria for flammable gases (class 2.1) shall be transported under UN 3163.
230	Lithium cells and batteries may be transported under this entry if they meet the provisions of 2.9.4.
232	This entry shall only be used when the substance does not meet the criteria of any other class. Transport in cargo transport units other than in tanks shall be in accordance with standards specified by the competent authority of the country of origin.
235	<u>This entry applies to articles which contain class 1 explosive substances and which may also contain dangerous goods of other classes. These articles are used as life-saving vehicle air-bag inflators or air-bag modules or seat-belt</u>

	pretensioners. (👉 Amended by Res.MSC.372(93))
236	<p>Polyester resin kits consist of two components: a base material (class 3, packing group II or III) and an activator (organic peroxide). The organic peroxide shall be type D, E or F, not requiring temperature control. Packing group shall be II or III, according to the criteria for class 3, applied to the base material. The quantity limit and the excepted quantity code shown in columns 7a and 7b of the Dangerous Goods List apply to the base material.</p>
237	<p>The membrane filters, including paper separators, coating or backing materials, etc., that are present in transport, shall not be liable to propagate a detonation as tested by one of the tests described in the UN Manual of Tests and Criteria, Part I, Test series 1(a). In addition, the competent authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the United Nations Manual of Tests and Criteria, Part III, 33.2.1, that nitrocellulose membrane filters in the form in which they are to be transported are not subject to the provisions of this Code applicable to flammable solids in class 4.1.</p>
238	<p>.1 Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid:</p> <p>Vibration test: The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies and return is traversed in 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.</p> <p>Pressure differential test: Following the vibration test, the battery is stored for six hours at $24^{\circ}\text{C} \pm 4^{\circ}\text{C}$ while subjected to a pressure differential of at least 88 kPa. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position. Non-spillable type batteries which are an integral part of and necessary for the operation of mechanical or electronic equipment shall be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits.</p> <p>.2 Non-spillable batteries are not subject to the provisions of this Code if, at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, when packaged for transport, the terminals are protected from short circuit.</p>
239	<p>Batteries or cells shall not contain dangerous goods other than sodium, sulphur or sodium compounds (e.g., sodium polysulphides and sodium tetrachloroaluminate). Batteries or cells shall not be offered for transport at a temperature such that liquid elemental sodium is present in the battery or cell, unless approved and under the conditions established by the competent authority. Cells shall consist of hermetically sealed metal casings which fully enclose the dangerous goods and which are so constructed and closed as to prevent the release of the dangerous goods under normal conditions of transport. Batteries shall consist of cells secured within and fully enclosed by a metal casing so constructed and closed as to prevent the release of the dangerous goods under normal conditions of transport. Batteries installed in vehicles are not subject to the provisions of this Code.</p>

240	<p>This entry only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries transported with these batteries installed. For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are electrically-powered cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, e bikes, wheel-chairs, lawn tractors, boats and aircraft. Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries shall be consigned under the entries UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT or UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, as appropriate. Hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. Vehicles which contain a fuel cell shall be consigned under the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.</p>
241	<p>The formulation shall be prepared so that it remains homogeneous and does not separate during transport. Formulations with low nitrocellulose contents and not showing dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by tests of Test series 1(a), 2(b) and 2(c) respectively in the United Nations Manual of Tests and Criteria, Part I and not being a flammable solid when tested in accordance with test No. 1 in the United Nations Manual of Tests and Criteria, Part III, paragraph 33.2.1.4 (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to the provisions of this Code.</p>
242	<p>Sulphur is not subject to the provisions of this Code when it has been formed to a specific shape (such as prills, granules, pellets, pastilles or flakes).</p>
243	<p>Gasoline, motor spirit and petrol for use in spark-ignition engines (e.g., in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.</p>
244	<p>This entry includes materials and substances such as aluminium dross, aluminium skimmings, spent cathodes, spent potliner and aluminium salt slags.</p>
247	<p>Alcoholic beverages containing more than 24% alcohol but not more than 70% by volume, when transported as part of the manufacturing process, may be transported in wooden barrels with a capacity of more than 250 litres and not more than 500 litres meeting the general requirements of 4.1.1, as appropriate, on the following conditions:</p> <ul style="list-style-type: none"> .1 the wooden barrels shall be checked and tightened before filling; .2 sufficient ullage (not less than 3%) shall be left to allow for the expansion of the liquid; .3 the wooden barrels shall be transported with the bungholes pointing upwards; .4 the wooden barrels shall be transported in containers meeting the provisions of the International Convention for Safe Containers (CSC 1972), as amended, and each wooden barrel shall be secured in custom-made cradles and be wedged by appropriate means to prevent it from being displaced in any way during transport; and .5 when carried on board ships, the containers shall be stowed in open cargo spaces or in enclosed cargo spaces complying with the requirements for class 3 flammable liquids with a flashpoint of 23°C c.c. or less in regulation II-2/19 of SOLAS, 74, as amended or regulation II-2/54 of SOLAS 74, as amended by the resolutions indicated in II-2/1.2.1, as applicable.
249	<p>Ferrocium, stabilized against corrosion, with a minimum iron content of 10% is not subject to the provisions of this Code.</p>

250	<p>This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. The transport of substances under this entry shall be in accordance with the chain of custody and security procedures specified by the Organization for the Prohibition of Chemical Weapons. The chemical sample may only be transported provided prior approval has been granted by the competent authority or the Director General of the Organization for the Prohibition of Chemical Weapons and providing the sample complies with the following conditions:</p> <p>.1 it shall be packaged according to packing instruction 623 in the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air; and</p> <p>.2 during transport, it shall be accompanied by a copy of the document of approval for transport, showing the quantity limitations and the packing provisions.</p>
251	<p>The entry CHEMICAL KIT or FIRST AID KIT is intended to apply to boxes, cases, etc., containing small quantities of various dangerous goods which are used, for example, for medical, analytical, testing or repair purposes. Such kits may not contain dangerous goods for which the quantity "0" has been indicated in column 7a of the Dangerous Goods List. Components shall not react dangerously (see 4.1.1.6). The total quantity of dangerous goods in any one kit shall not exceed either 1 l or 1 kg. The packing group assigned to the kit as a whole shall be the most stringent packing group assigned to any individual substance in the kit. <u>Where the kit contains only dangerous goods to which no packing group is assigned, no packing group need be indicated on the dangerous goods transport document.</u> Kits which are carried on board vehicles for first-aid or operating purposes are not subject to the provisions of this Code. Chemical kits and first aid kits containing dangerous goods in inner packagings which do not exceed the quantity limits for limited quantities applicable to individual substances as specified in column 7a of the Dangerous Goods List may be transported in accordance with chapter 3.4.</p>
252	<p>Provided the ammonium nitrate remains in solution under all conditions of transport, aqueous solutions of ammonium nitrate, with not more than 0.2% combustible material, in a concentration not exceeding 80%, are not subject to the provisions of this Code.</p>
266	<p>This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.</p>
267	<p>Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.</p>
270	<p>Aqueous solutions of class 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of class 5.1 if the concentration of the substances in solution at the minimum temperature encountered in transport is not greater than 80% of the saturation limit.</p>
271	<p>Lactose or glucose or similar materials may be used as a phlegmatizer provided that the substance contains not less than 90%, by mass, of phlegmatizer. The competent authority may authorize these mixtures to be classified under class 4.1 on the basis of series 6(c) tests of Part I of the United Nations Manual of Tests and Criteria on at least three packages as prepared for transport. Mixtures containing at least 98%, by mass, of phlegmatizer are not subject to the provisions of this Code. Packages containing mixtures with not less than 90%, by mass, of phlegmatizer need not bear a "TOXIC" subsidiary risk label.</p>
272	<p>This substance shall not be transported under the provisions of class 4.1 unless specifically authorized by the competent authority (see UN 0143 or UN 0150 as appropriate).</p>
273	<p>Maneb and maneb preparations stabilized against self-heating need not be classified in class 4.2 when it can be demonstrated by testing that a cubic volume of 1 m³ of substance does not self-ignite and that the temperature at the centre of the sample does not exceed 200°C when the sample is maintained at a temperature of not less than 75°C ± 2°C for a period of 24 hours.</p>

274	For the purposes of documentation and package marking, the Proper Shipping Name shall be supplemented with the technical name (see 3.1.2.8.1).
277	For aerosols or receptacles containing toxic substances, the limited quantity value is 120 ml. For all other aerosols or receptacles, the limited quantity value is 1000 ml.
278	These substances shall not be classified and transported unless authorized by the competent authority on the basis of results from series 2 tests and series 6(c) tests of Part I of the United Nations Manual of Tests and Criteria on packages as prepared for transport (see 2.1.3.1). The competent authority shall assign the packing group on the basis of the chapter 2.3 criteria and the package type used for the series 6(c) tests.
279	The substance is assigned to this classification or packing group based on human experience rather than the strict application of classification criteria set out in this Code.
280	<u>This entry applies to safety devices for vehicles, vessels or aircraft, e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices, which contain dangerous goods of Class 1 or of other classes, when transported as component parts and if these articles as presented for transport have been tested in accordance with Test Series 6(c) of Part 1 of the Manual of Tests and Criteria, with no explosion of the device, no fragmentation of device casing or pressure receptacle, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or emergency response efforts in the immediate vicinity. This entry does not apply to life saving appliances described in special provision 296 (UN Nos. 2990 and 3072).</u> (👉) Amended by Res.MSC.372(93)
281	Transport of hay, straw or bhusa when wet, damp or contaminated with oil is prohibited and when not wet or contaminated with oil is subject to the provisions of this Code.
283	Articles, containing gas, intended to function as shock absorbers, including impact-energy-absorbing devices or pneumatic springs, are not subject to the provisions of this Code provided: <ul style="list-style-type: none"> .1 each article has a gas space capacity not exceeding 1.6 l and a charge pressure not exceeding 280 bar where the product of the capacity (litres) and charge pressure (bar) does not exceed 80 (i.e., 0.5 l gas space and 160 bar charge pressure, 1 l gas space and 80 bar charge pressure, 1.6 l gas space and 50 bar charge pressure, 0.28 l gas space and 280 bar charge pressure); .2 each article has a minimum burst pressure of 4 times the charge pressure at 20°C for products not exceeding 0.5 l gas space capacity and 5 times charge pressure for products greater than 0.5 l gas space capacity; .3 each article is manufactured from material which will not fragment upon rupture; .4 each article is manufactured in accordance with a quality-assurance standard acceptable to the competent authority; and .5 the design type has been subjected to a fire test demonstrating that pressure in the article is relieved by means of a firedegradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket.
284	An oxygen generator, chemical, containing oxidizing substances shall meet the following conditions: <ul style="list-style-type: none"> .1 the generator, when containing an explosive device, shall only be transported under this entry when excluded from class 1 in accordance with 2.1.3 of this Code; .2 the generator, without its packaging, shall be capable of withstanding a 1.8 m drop test onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, without loss of its contents and without actuation; and .3 when the generator is equipped with an actuating device, it shall have at least two positive means of preventing unintentional actuation.
286	Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the provisions of this Code when contained individually in an article or a sealed packet.

288	These substances shall not be classified and transported unless authorized by the competent authority on the basis of results from series 2 tests and series 6(c) tests of Part I of the UN Manual of Tests and Criteria on packages as prepared for transport (see 2.1.3).
289	<u>Safety devices, electrically initiated and safety devices, pyrotechnic installed in vehicles, vessels or aircraft or in completed components such as steering columns, door panels, seats, etc. are not subject to the provisions of this Code.</u> (👉 Amended by Res.MSC.372(93))
290	<p>When this radioactive material meets the definitions and criteria of other classes or divisions as defined in part 2, it shall be classified in accordance with the following:</p> <p>.1 Where the substance meets the criteria for dangerous goods in excepted quantities as set out in chapter 3.5, the packagings shall be in accordance with 3.5.2 and meet the testing requirements of 3.5.3. All other requirements applicable to radioactive material, excepted packages as set out in 1.5.1.5 shall apply without reference to the other class or division;</p> <p>.2 Where the quantity exceeds the limits specified in 3.5.1.2, the substance shall be classified in accordance with the predominant subsidiary risk. The dangerous goods transport document shall describe the substance with the UN Number and Proper Shipping Name applicable to the other class supplemented with the name applicable to the radioactive excepted package according to column 2 in the Dangerous Goods List of chapter 3.2, and the substance shall be transported in accordance with the provisions applicable to that UN Number. An example of the information shown on the dangerous goods transport document is: UN 1993, Flammable liquid, N.O.S. (ethanol and toluene mixture), Radioactive material, excepted package - limited quantity of material, class 3, PG II. In addition, the provisions of 2.7.2.4.1 shall apply;</p> <p>.3 The provisions of chapter 3.4 for the transport of dangerous goods packed in limited quantities shall not apply to substances classified in accordance with subparagraph .2;</p> <p>.4 When the substance meets a special provision that exempts this substance from all dangerous goods provisions of the other classes, it shall be classified in accordance with the applicable UN Number of class 7 and all requirements specified in 1.5.1.5 shall apply.</p>
291	Flammable liquefied gases shall be contained within refrigerating-machine components. These components shall be designed and tested to at least three times the working pressure of the machinery. The refrigerating machines and refrigerating machinery components shall be designed and constructed to contain the liquefied gas and preclude the risk of bursting or cracking of the pressure-retaining components during normal conditions of transport. Refrigerating machines and refrigerating-machine components are not subject to the provisions of this Code if they contain less than 12 kg of gas.
293	<p>The following definitions apply to matches:</p> <p>(a) Fusee matches are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat;</p> <p>(b) Safety matches are combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;</p> <p>(c) "Strike anywhere" matches are matches that can be ignited by friction on a solid surface;</p> <p>(d) Wax 'Vesta' matches are matches that can be ignited by friction either on a prepared surface or on a solid surface.</p>
294	Safety matches and wax 'Vesta' matches in an outer packaging not exceeding 25 kg net mass are not subject to any other provision (except marking) of this Code when packaged in accordance with packing instruction P407.
295	Batteries need not be individually marked and labelled if the pallet bears the appropriate mark and label.

296	<p>These entries apply to life-saving appliances such as liferafts, personal flotation devices and selfinflating slides. UN 2990 applies to self-inflating appliances. UN 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain:</p> <ul style="list-style-type: none"> .1 signal devices (class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated; .2 for UN 2990 only, cartridges, power device of division 1.4, compatibility group S, may be contained for purposes of the self-inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2 g; .3 class 2.2 compressed or liquefied gases; .4 electric storage batteries (class 8) and lithium batteries (class 9); .5 first aid kits or repair kits containing small quantities of dangerous goods (e.g., classes 3, 4.1, 5.2, 8 or 9 substances); or .6 "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated. <p>Life-saving appliances packed in strong rigid outer packagings with a total maximum gross mass of 40 kg, containing no dangerous goods other than Class 2.2 compressed or liquefied gases with no subsidiary risk in receptacles with a capacity not exceeding 120 ml, installed solely for the purpose of the activation of the appliance, are not subject to the provision of this Code.</p>
299	<p>Consignments of:</p> <ul style="list-style-type: none"> (i) Cotton, dry having a density not less than 360 kg/m³; (ii) Flax, dry having a density not less than 400 kg/m³; (iii) Sisal, dry having a density not less than 360 kg/m³; and (iv) Tampico fibre, dry having a density not less than 360 kg/m³, according to ISO 8115:1986, are not subject to the provisions of this Code when transported in closed cargo transport units.
300	<p>Fish meal, fish scrap and krill meal shall not be transported if the temperature at the time of loading exceeds 35°C or 5°C above the ambient temperature, whichever is higher.</p>
301	<p>This entry only applies to machinery or apparatus containing dangerous substances as a residue or an integral element of the machinery or apparatus. It shall not be used for machinery or apparatus for which a Proper Shipping Name already exists in the Dangerous Goods List. Machinery and apparatus transported under this entry shall only contain dangerous goods which are authorized to be transported in accordance with the provisions in chapter 3.4 (Limited quantities). The quantity of dangerous goods in machinery or apparatus shall not exceed the quantity specified in column 7a of the Dangerous Goods List for each item of dangerous goods contained. If the machinery or apparatus contains more than one item of dangerous goods, the individual substances shall not be capable of reacting dangerously with one another (see 4.1.1.6). When it is required to ensure liquid dangerous goods remain in their intended orientation, package orientation labels meeting the specifications of ISO 780: 1985 shall be affixed on at least two opposite vertical sides with the arrows pointing in the correct direction. The transport of dangerous goods in machinery or apparatus where the quantity of dangerous goods exceeds the quantity specified in column 7a of the Dangerous Goods List is authorized when approved by the competent authority, except where special provision 363 applies.</p>
302	<p>Fumigated cargo transport units containing no other dangerous goods are only subject to the provisions of 5.5.2.</p>
303	<p>Receptacles shall be assigned to the class and, if any, subsidiary hazard of the gas or mixture of gases contained therein determined in accordance with the provisions of chapter 2.2.</p>
304	<p>This entry may only be used for the transport of non-activated batteries which contain dry potassium hydroxide and which are intended to be activated prior to use by the addition of an appropriate amount of water to the individual cells.</p>
305	<p>These substances are not subject to the provisions of this Code when in concentrations of not more than 50 mg/kg.</p>
306	<p><u>This entry may only be used for substances that are too insensitive for acceptance into Class 1 when tested in accordance with Test Series 2 (see Manual of Tests and Criteria, Part I)</u></p>

307	<p>This entry shall be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits:</p> <p>.1 not less than 90% ammonium nitrate with not more than 0.2% total combustible/organic material calculated as carbon and with added matter, if any, which is inorganic and inert towards ammonium nitrate; or</p> <p>.2 less than 90% but more than 70% ammonium nitrate with other inorganic materials or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate and not more than 0.4% total combustible/organic material calculated as carbon; or</p> <p>.3 nitrogen type ammonium nitrate based fertilizers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon such that the sum of the percentage compositions of ammonium nitrate and ammonium sulphate exceeds 70%.</p>
308	<p>Fish scrap or fish meal shall contain at least 100 ppm of antioxidant (ethoxyquin) at the time of consignment.</p>
309	<p>This entry applies to non-sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use. The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. <u>Substances shall satisfactorily pass Tests 8(a), (b) and (c) of Test Series 8 of the Manual of Tests and Criteria, Part I, Section 18 and be approved by the competent authority.</u> (👉 Amended by Res.MSC.372(93))</p>
310	<p>The testing requirements in chapter 38.3 of the UN Manual of Tests and Criteria do not apply to production runs consisting of not more than 100 cells and batteries, or to pre-production prototypes of cells and batteries when these prototypes are transported for testing, if:</p> <p>.1 the cells and batteries are transported in an outer packaging that is a metal, plastics or plywood drum or a metal, plastics or wooden box and that meets the criteria for packing group I packagings; and</p> <p>.2 each cell and battery is individually packed in an inner packaging inside an outer packaging and is surrounded by cushioning material that is non-combustible, and non-conductive.</p>
Note:	<p>For damage or defective lithium batteries and cells see SP 376. (👉 Added by Res.MSC.372(93))</p>
311	<p>Substances shall not be transported under this entry unless approved by the competent authority on the basis of the results of appropriate tests according to Part I of the United Nations Manual of Tests and Criteria. Packaging shall ensure that the percentage of diluent does not fall below that stated in the competent authority approval at any time during transport.</p>
312	<p>Vehicles or machinery powered by a fuel cell engine shall be consigned under the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, or UN 3166 ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed. Other vehicles which contain an internal combustion engine shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the batteries installed.</p>

314	<p>(a) These substances are liable to exothermic decomposition at elevated temperatures. Decomposition can be initiated by heat or by impurities (e.g., powdered metals (iron, manganese, cobalt, magnesium) and their compounds).</p> <p>(b) During the course of transport, these substances shall be shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas.</p>
315	This entry shall not be used for class 6.1 substances which meet the inhalation toxicity criteria for packing group I described in 2.6.2.2.4.3.
316	This entry applies only to calcium hypochlorite, dry, when transported in non-friable tablet form.
317	"Fissile - excepted" applies only to those packages complying with 6.4.11.2.
318	For the purposes of documentation, the Proper Shipping Name shall be supplemented with the technical name (see 3.1.2.8). Technical names need not be shown on the package. When the infectious substances to be transported are unknown, but suspected of meeting the criteria for inclusion in category A and assignment to UN 2814 or UN 2900, the words "suspected category A infectious substance" shall be shown, in parentheses, following the Proper Shipping Name on the transport document, but not on the outer packagings.
319	Substances packed and packages marked in accordance with packing instruction P650 are not subject to any other provisions of this Code.
321	These storage systems shall always be considered as containing hydrogen.
322	When transported in non-friable tablet form, these goods are assigned to packing group III.
324	This substance needs to be stabilized when in concentrations of not more than 99%.
325	In the case of non-fissile or fissile excepted uranium hexafluoride, the material shall be classified under UN 2978.
326	In the case of fissile uranium hexafluoride, the material shall be classified under UN 2977.
327	Waste aerosols consigned in accordance with 5.4.1.4.3.3 may be transported under this entry for the purposes of reprocessing or disposal. They need not be protected against inadvertent discharge provided that measures to prevent dangerous build-up of pressure and dangerous atmospheres are addressed. Waste aerosols, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P207 and special provision PP87, or packing instruction LP02 and special packing provision L2. Leaking or severely deformed aerosols shall be transported in salvage packagings provided appropriate measures are taken to ensure there is no dangerous build-up of pressure. Waste aerosols shall not be transported in closed freight containers.
328	<p>This entry applies to fuel cell cartridges, including when contained in equipment or packed with equipment. Fuel cell cartridges installed in or integral to a fuel cell system are regarded as contained in equipment. "Fuel cell cartridge" means an article that stores fuel for discharge into the fuel cell through a valve(s) that controls the discharge of fuel into the fuel cell. Fuel cell cartridges, including when contained in equipment, shall be designed and constructed to prevent fuel leakage under normal conditions of transport. Fuel cell cartridge design types using liquids as fuels shall pass an internal pressure test at a pressure of 100 kPa (gauge) without leakage.</p> <p>Except for fuel cell cartridges containing hydrogen in metal hydride, which shall be in compliance with special provision 339, each fuel cell cartridge design type shall be shown to pass a 1.2 m drop test onto an unyielding surface, in the orientation most likely to result in failure of the containment system, with no loss of contents. When lithium metal or lithium ion batteries are contained in the fuel cell system, the consignment shall be consigned under this entry and under the appropriate entries for UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT.</p>
332	Magnesium nitrate hexahydrate is not subject to the provisions of this Code.

333	Ethanol and gasoline, motor spirit or petrol mixtures for use in spark-ignition engines (e.g., in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.
334	A fuel cell cartridge may contain an activator provided it is fitted with two independent means of preventing unintended mixing with the fuel during transport.
335	Mixtures of solids which are not subject to the provisions of this Code and environmentally hazardous liquids assigned to UN 3082 may be classified and transported as UN 3077, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. If free liquid is visible at the time the mixture is loaded or at the time the packaging or cargo transport unit is closed, the mixture shall be classified as UN 3082. Each cargo transport unit shall be leakproof when used as a bulk container. Sealed packets and articles containing less than 10 ml of an environmentally hazardous liquid assigned to UN 3082, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid assigned to UN 3077, are not subject to the provisions of this Code.
338	<p>Each fuel cell cartridge transported under this entry and designed to contain a liquefied flammable gas shall:</p> <ul style="list-style-type: none"> .1 be capable of withstanding, without leakage or bursting, a pressure of at least two times the equilibrium pressure of the contents at 55°C; .2 Not contain more than 200 ml liquefied flammable gas, the vapour pressure of which shall not exceed 1 000 kPa at 55 °C; and .3 pass the hot water bath test prescribed in 6.2.4.1 of chapter 6.2.
339	<p>Fuel cell cartridges containing hydrogen in a metal hydride transported under this entry shall have a water capacity less than or equal to 120 ml. The pressure in the fuel cell cartridge shall not exceed 5 MPa at 55°C. The design type shall withstand, without leaking or bursting, a pressure of two (2) times the design pressure of the cartridge at 55°C or 200 kPa more than the design pressure of the cartridge at 55°C, whichever is greater. The pressure at which this test is conducted is referred to in the Drop Test and the Hydrogen Cycling Test as the "minimum shell burst pressure". Fuel cell cartridges shall be filled in accordance with procedures provided by the manufacturer. The manufacturer shall provide the following information with each fuel cell cartridge:</p> <ul style="list-style-type: none"> .1 Inspection procedures to be carried out before initial filling and before refilling of the fuel cell cartridge; .2 Safety precautions and potential hazards to be aware of; .3 Method for determining when the rated capacity has been achieved; .4 Minimum and maximum pressure range; .5 Minimum and maximum temperature range; and .6 Any other requirements to be met for initial filling and refilling, including the type of equipment to be used for initial filling and refilling. The fuel cell cartridges shall be designed and constructed to prevent fuel leakage under normal conditions of transport. <p>Each cartridge design type, including cartridges integral to a fuel cell, shall be subjected to and shall pass the following tests:</p> <p>Drop test</p> <p>A 1.8 m drop test onto an unyielding surface in four different orientations:</p> <ul style="list-style-type: none"> .1 Vertically, on the end containing the shut-off valve assembly; .2 Vertically, on the end opposite to the shut-off valve assembly; .3 Horizontally, onto a steel apex with a diameter of 38 mm, with the steel apex in the upward position; and .4 At a 45° angle on the end containing the shut-off valve assembly. There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations, when the cartridge is charged to its rated charging pressure. The fuel cell cartridge shall then be hydrostatically pressurized to destruction. The recorded burst pressure shall exceed 85% of the minimum shell burst pressure. <p>Fire test</p> <p>A fuel cell cartridge filled to rated capacity with hydrogen shall be subjected to a fire engulfment test. The cartridge design, which</p>

	<p>may include a vent feature integral to it, is deemed to have passed the fire test if:</p> <ul style="list-style-type: none"> .1 The internal pressure vents to zero gauge pressure without rupture of the cartridge; or .2 The cartridge withstands the fire for a minimum of 20 minutes without rupture. <p>Hydrogen cycling test</p> <p>This test is intended to ensure that a fuel cell cartridge design stress limits are not exceeded during use. The fuel cell cartridge shall be cycled from not more than 5% rated hydrogen capacity to not less than 95% rated hydrogen capacity and back to not more than 5% rated hydrogen capacity. The rated charging pressure shall be used for charging and temperatures shall be held within the operating temperature range. The cycling shall be continued for at least 100 cycles.</p> <p>Following the cycling test, the fuel cell cartridge shall be charged and the water volume displaced by the cartridge shall be measured. The cartridge design is deemed to have passed the hydrogen cycling test if the water volume displaced by the cycled cartridge does not exceed the water volume displaced by an uncycled cartridge charged to 95% rated capacity and pressurized to 75% of its minimum shell burst pressure.</p> <p>Production leak test</p> <p>Each fuel cell cartridge shall be tested for leaks at 15°C ± 5°C, while pressurized to its rated charging pressure. There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations. Each fuel cell cartridge shall be permanently marked with the following information:</p> <ul style="list-style-type: none"> .1 The rated charging pressure in megapascals (MPa); .2 The manufacturer's serial number of the fuel cell cartridges or unique identification number; and .3 The date of expiry based on the maximum service life (year in four digits; month in two digits).
340	<p>Chemical kits, first aid kits and polyester resin kits containing dangerous substances in inner packagings which do not exceed the quantity limits for excepted quantities applicable to individual substances as specified in column 7b of the Dangerous Goods List may be transported in accordance with chapter 3.5. Class 5.2 substances, although not individually authorized as excepted quantities in the Dangerous Goods List, are authorized in such kits and are assigned code E2 (see 3.5.1.2).</p>
341	<p>Bulk transport of infectious substances in BK2 bulk containers is only permitted for infectious substances contained in animal material as defined in 1.2.1 (see 4.3.2.4.1).</p>
342	<p>Glass inner receptacles (such as ampoules or capsules) intended only for use in sterilization devices, when containing less than 30 ml of ethylene oxide per inner packaging with not more than 300 ml per outer packaging, may be transported in accordance with the provisions in chapter 3.5, irrespective of the indication of "E0" in column 7b of the Dangerous Goods List provided that:</p> <ul style="list-style-type: none"> .1 After filling, each glass inner receptacle has been determined to be leak tight by placing the glass inner receptacle in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55°C is achieved. Any glass inner receptacle showing evidence of leakage, distortion or other defect under this test shall not be transported under the terms of this special provision; .2 In addition to the packaging required by 3.5.2, each glass inner receptacle is placed in a sealed plastics bag compatible with ethylene oxide and capable of containing the contents in the event of breakage or leakage of the glass inner receptacle; and .3 Each glass inner receptacle is protected by a means of preventing puncture of the plastics bag (e.g., sleeves or cushioning) in the event of damage to the packaging (e.g., by crushing).

343	This entry applies to crude oil containing hydrogen sulphide in sufficient concentration that vapours evolved from the crude oil can present an inhalation hazard. The packing group assigned shall be determined by the flammability hazard and inhalation hazard, in accordance with the degree of danger presented.
344	The provisions of 6.2.4 shall be met.
345	This gas contained in open cryogenic receptacles with a maximum capacity of 1 litre constructed with glass double walls having the space between the inner and outer wall evacuated (vacuum insulated) is not subject to the provisions of this Code provided each receptacle is transported in an outer packaging with suitable cushioning or absorbent materials to protect it from impact damage.
346	Open cryogenic receptacles conforming to the requirements of packing instruction P203 and containing no dangerous goods except for UN 1977, nitrogen, refrigerated liquid, which is fully absorbed in a porous material, are not subject to any other provisions of this Code.
347	This entry shall only be used if the results of Test series 6 (d) of part I of the United Nations Manual of Tests and Criteria have demonstrated that any hazardous effects arising from functioning are confined within the package.
348	Batteries manufactured after 31 December 2011 shall be marked with the Watt hour rating on the outside case.
349	Mixtures of a hypochlorite with an ammonium salt are not to be accepted for transport. UN 1791 hypochlorite solution is a substance of class 8.
350	Ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt are not to be accepted for transport.
351	Ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt are not to be accepted for transport.
352	Ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt are not to be accepted for transport.
353	Ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt are not to be accepted for transport.
354	This substance is toxic by inhalation.
355	Oxygen cylinders for emergency use transported under this entry may include installed actuating cartridges (cartridges, power device of class 1.4, compatibility group C or S), without changing the classification of class 2.2 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per oxygen cylinder. The cylinders with the installed actuating cartridges as prepared for transport shall have an effective means of preventing inadvertent activation.
356	Metal hydride storage systems installed in vehicles, vessels or aircrafts or in completed components or intended to be installed in vehicles, vessels or aircrafts shall be approved by the competent authority before acceptance for transport. The transport document shall include an indication that the package was approved by the competent authority or a copy of the competent authority approval shall accompany each consignment.
357	Petroleum crude oil containing hydrogen sulphide in sufficient concentration that vapours evolved from the crude oil can present an inhalation hazard shall be consigned under the entry UN 3494 PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC.
358	Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin may be classified in Class 3 and assigned to UN 3064 provided all the requirements of packing instruction P300 are complied with.
359	Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin shall be classified in Class 1 and assigned to UN 0144 if not all the requirements of packing instruction P300 are complied with.

360	Vehicles only powered by lithium metal batteries or lithium ion batteries shall be consigned under the entry UN 3171 BATTERY POWERED VEHICLE.
361	<p>This entry applies to electric double layer capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to the provisions of this Code. Energy storage capacity means the energy held by a capacitor, as calculated using the nominal voltage and capacitance. All capacitors to which this entry applies, including capacitors containing an electrolyte that does not meet the classification criteria of any class or division of dangerous goods, shall meet the following conditions:</p> <p>.1 Capacitors not installed in equipment shall be transported in an uncharged state. Capacitors installed in equipment shall be transported either in an uncharged state or protected against short circuit;</p> <p>.2 Each capacitor shall be protected against a potential short circuit hazard in transport as follows:</p> <p>(i) When a capacitor's energy storage capacity is less than or equal to 10 Wh or when the energy storage capacity of each capacitor in a module is less than or equal to 10 Wh, the capacitor or module shall be protected against short circuit or be fitted with a metal strap connecting the terminals; and</p> <p>(ii) When the energy storage capacity of a capacitor or a capacitor in a module is more than 10 Wh, the capacitor or module shall be fitted with a metal strap connecting the terminals;</p> <p>.3 Capacitors containing dangerous goods shall be designed to withstand a 95 kPa pressure differential;</p> <p>.4 Capacitors shall be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting shall be contained by the packaging or by the equipment in which a capacitor is installed; and</p> <p><u>.5 Capacitors shall be marked with the energy storage capacity in Wh except those manufactured before 1 January 2014.</u> (👉 Added by Res.MSC.372(93))</p> <p>Capacitors containing an electrolyte not meeting the classification criteria of any class or division of dangerous goods, including when installed in equipment, are not subject to other provisions of this Code.</p> <p>Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, with an energy storage capacity of 10 Wh or less are not subject to other provisions of this Code when they are capable of withstanding a 1.2 metre drop test unpackaged on an unyielding surface without loss of contents.</p> <p>Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 10 Wh are subject to the provisions of this Code.</p> <p>Capacitors installed in the equipment and containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, are not subject to other provisions of this Code provided the equipment is packaged in a strong outer packaging constructed of suitable material and of adequate strength and design, in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during transport. Large robust equipment containing capacitors may be offered for transport unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.</p>
Note to 361:	Capacitors which by design maintain a terminal voltage (e.g., asymmetrical capacitors) do not belong to this entry.
362	This entry applies to liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas in 2.2.1.1 and 2.2.1.2 (.1) or (.2).

<p>Note to 362:</p>	<p>A chemical under pressure in an aerosol dispenser shall be transported under UN 1950.</p> <p>The following provisions shall apply:</p> <p>.1 The chemical under pressure shall be classified based on the hazard characteristics of the components in the different states:</p> <ul style="list-style-type: none"> - the propellant; - the liquid; or - the solid. <p>If one of these components, which can be a pure substance or a mixture, needs to be classified as flammable, the chemical under pressure shall be classified as flammable in class 2.1. Flammable components are flammable liquids and liquid mixtures, flammable solids and solid mixtures or flammable gases and gas mixtures meeting the following criteria:</p> <ul style="list-style-type: none"> (i) A flammable liquid is a liquid having a flashpoint of not more than 93°C; (ii) A flammable solid is a solid which meets the criteria in 2.4.2.2 of this Code; (iii) A flammable gas is a gas which meets the criteria in 2.2.2.1 of this Code; <p>.2 Gases of class 2.3 and gases with a subsidiary risk of 5.1 shall not be used as a propellant in a chemical under pressure;</p> <p>.3 Where the liquid or solid components are classified as dangerous goods of class 6.1, packing groups II or III, or class 8, packing groups II or III, the chemical under pressure shall be assigned a subsidiary risk of class 6.1 or class 8 and the appropriate UN number shall be assigned. Components classified in class 6.1, packing group I, or class 8, packing group I, shall not be used for transport under this proper shipping name;</p> <p>.4 In addition, chemicals under pressure with components meeting the properties of: class 1, explosives; class 3, liquid desensitized explosives; class 4.1, self-reactive substances and solid desensitized explosives; class 4.2, substances liable to spontaneous combustion; class 4.3, substances which, in contact with water, emit flammable gases; class 5.1 oxidizing substances; class 5.2, organic peroxides; class 6.2, Infectious substances or class 7, Radioactive material, shall not be used for transport under this proper shipping name;</p> <p>.5 Substances to which PP86 or TP7 are assigned in Column 9 and Column 14 of the Dangerous Goods List in Chapter 3.2 and therefore require air to be eliminated from the vapour space, shall not be used for transport under this UN number but shall be transported under their respective UN numbers as listed in the Dangerous Goods List of Chapter 3.2.</p>
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363	<p>This entry also applies to dangerous goods above the quantity specified in Column 7a of the Dangerous Goods List of Chapter 3.2 in means of containment (other than vehicles or means of containment defined in Part 6 of these Code subject to special provision 301) integral to equipment or machinery (e.g. generators, compressors, heating units, etc) as part of their original design type. They are not subject to any other provisions of this Code if the following provisions are met:</p> <p>.1 the means of containment shall be in compliance with the construction requirements of the competent authority;</p> <p>.2 any valves or openings (e.g. venting devices) in the means of containment containing dangerous goods shall be closed during transport;</p> <p>.3 the machinery or equipment shall be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the machinery or equipment to prevent any movement during transport which would change the orientation or cause it to be damaged;</p> <p>.4 where the means of containment has a capacity of not more than 450 l, the labelling requirements of 5.2.2 and, when necessary, the marking requirements of 5.2.1.6 shall apply and, where the capacity is greater than 450 l but not more than 1 500 l, the machinery or equipment shall be labelled on all four external sides in accordance with 5.2.2 and, when necessary, shall be marked in accordance with 5.2.1.6 ;</p> <p>.5 where the means of containment has a capacity greater than 1500 l, the machinery or equipment shall be placarded on all four external sides in accordance with 5.3.1.1.2 and, when necessary, shall be marked in accordance with 5.2.1.6 ;</p> <p>.6 the provisions of Part 2, Part 3 except columns (8) to (14) of the dangerous goods list in 3.2, 5.1.1 except 5.1.1.4, 5.3 except 5.3.2.0 and 5.3.2.1, 5.4 and Part 7 shall apply.</p> <p>.7 the transport of machinery or equipment where the quantity of substance exceeds 1500 l is authorized when approved by the competent authority.</p>
364	<p>This article may only be transported under the provisions of Chapter 3.4 if, as presented for transport, the package is capable of passing the test in accordance with Test Series 6(d) of Part I of the Manual of Tests and Criteria as determined by the competent authority.</p>
365	<p>For manufactured instruments and articles containing mercury, see UN 3506.</p>
366	<p>Manufactured instruments and articles containing not more than 1 kg of mercury are not subject to the provisions of this Code.</p>
367	<p><u>For the purposes of documentation and package marking:</u></p> <p><u>The proper shipping name "Paint related material" may be used for consignments of packages containing "Paint" and "Paint related material" in the same package;</u></p> <p><u>The proper shipping name "Paint related material, corrosive, flammable" may be used for consignments of packages containing "Paint, corrosive, flammable" and "Paint related material, corrosive, flammable" in the same package;</u></p> <p><u>The proper shipping name "Paint related material, flammable, corrosive" may be used for consignments of packages containing "Paint, flammable, corrosive" and "Paint related material, flammable, corrosive" in the same package; and</u></p> <p><u>The proper shipping name "Printing ink related material" may be used for consignments of packages containing "Printing Ink" and "Printing ink related material" in the same package.</u></p>
368	<p><u>In the case of non-fissile or fissile-excepted uranium hexafluoride, the material shall be classified under UN 3507 or UN 2978. (👉 Inserted by Res.MSC.372(93))</u></p>
369	<p><u>In accordance with 2.0.3.5, this radioactive material in an excepted package possessing corrosive properties is classified in Class 8 with a radioactive material subsidiary risk. Uranium hexafluoride may be classified under this entry only if the conditions of 2.7.2.4.1.2, 2.7.2.4.1.5, 2.7.2.4.5.2 and, for fissile-excepted material, of 2.7.2.3.6 are met. In addition to the provisions applicable to the transport of Class 8 substances, the provisions of 5.1.3.2,</u></p>

	<p>5.1.5.2.2, 5.1.5.4.1.2, 7.1.4.5.9, 7.1.4.5.10, 7.1.4.5.12, and 7.8.4.1 to 7.8.4.6 shall apply. No Class 7 label is required to be displayed. (👉 Inserted by Res.MSC.372(93))</p>
370	<p><u>This entry applies to:</u></p> <ul style="list-style-type: none"> - ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance; and - ammonium nitrate with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance, that is not too sensitive for acceptance into Class 1 when tested in accordance with Test Series 2 (see Manual of Tests and Criteria, Part I). See also UN No. 1942.
371	<p>.1 This entry also applies to articles, containing a small pressure receptacle with a release device. Such articles shall comply with the following requirements:</p> <ul style="list-style-type: none"> (a) The water capacity of the pressure receptacle shall not exceed 0.5 litres and the working pressure shall not exceed 25 bar at 15°C; (b) The minimum burst pressure of the pressure receptacle shall be at least four times the pressure of the gas at 15°C; (c) Each article shall be manufactured in such a way that unintentional firing or release is avoided under normal conditions of handling, packing, transport and use. This may be fulfilled by an additional locking device linked to the activator; (d) Each article shall be manufactured in such a way as to prevent hazardous projections of the pressure receptacle or parts of the pressure receptacle; (e) Each pressure receptacle shall be manufactured from material which will not fragment upon rupture; (f) The design type of the article shall be subjected to a fire test. For this test, the provisions of paragraphs 16.6.1.2 except letter g, 16.6.1.3.1 to 16.6.1.3.6, 16.6.1.3.7 (b) and 16.6.1.3.8 of the Manual of Tests and Criteria shall be applied. It shall be demonstrated that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, in such a way that the pressure receptacle will not fragment and that the article or fragments of the article do not rocket more than 10 m; (g) The design type of the article shall be subjected to the following test. A stimulating mechanism shall be used to initiate one article in the middle of the packaging. There shall be no hazardous effects outside the package such as disruption of the package, metal fragments or a receptacle which passes through the packaging. <p>.2 The manufacturer shall produce technical documentation of the design type, manufacture as well as the tests and their results. The manufacturer shall apply procedures to ensure that articles produced in series are made of good quality, conform to the design type and are able to meet the requirements in .1. The manufacturer shall provide such information to the Competent Authority on request.</p>

This entry applies to asymmetric capacitors with an energy storage capacity greater than 0.3 Wh. Capacitors with an energy storage capacity of 0.3 Wh or less are not subject to the provisions of this Code.

Energy storage capacity means the energy stored in a capacitor, as calculated according to the following equation.

$$Wh = 1/2C_N(UR^2 - UL^2) \times (1/3600),$$

using the nominal capacitance (CN), rated voltage (UR) and rated lower limit voltage (UL).

All asymmetric capacitors to which this entry applies shall meet the following conditions:

(a) Capacitors or modules shall be protected against short circuit;

(b) Capacitors shall be designed and constructed to safely relieve pressure that may build up in use, through a vent or a weak point in the capacitor casing. Any liquid which is released upon venting shall be contained by packaging or by equipment in which a capacitor is installed;

(c) Capacitors shall be marked with the energy storage capacity in Wh, except those manufactured before 1 January 2016;

(d) Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods shall be designed to withstand a 95 kPa pressure differential;

Capacitors containing an electrolyte not meeting the classification criteria of any class or division of dangerous goods, including when configured in a module or when installed in equipment are not subject to other provisions of this Code.

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, with an energy storage capacity of 20 Wh or less, including when configured in a module, are not subject to other provisions of this Code when the capacitors are capable of withstanding a 1.2 metre drop test unpackaged on an unyielding surface without loss of contents.

Capacitors containing an electrolyte meeting the classification criteria of any class or division of dangerous goods that are not installed in equipment and with an energy storage capacity of more than 20 Wh are subject to this Code.

Capacitors installed in equipment and containing an electrolyte meeting the classification criteria of any class or division of dangerous goods, are not subject to other provisions of these Regulations provided that the equipment is packaged in a strong outer packaging constructed of suitable material, and of adequate strength and design, in relation to the packaging's intended use and in such a manner as to prevent accidental functioning of capacitors during transport. Large robust equipment containing capacitors may be offered for transport unpackaged or on pallets when capacitors are afforded equivalent protection by the equipment in which they are contained.

Note: Notwithstanding the provisions of this special provision, nickel-carbon asymmetric capacitors containing Class 8 alkaline electrolytes shall be transported as UN 2795, BATTERIES, WET, FILLED WITH ALKALI, electric storage.

Neutron radiation detectors containing non-pressurized boron trifluoride gas may be transported under this entry provided that the following conditions are met:

.1 Each radiation detector shall meet the following conditions.

(i) The pressure in each detector shall not exceed 105 kPa absolute at 20°C;

(ii) The amount of gas shall not exceed 13 g per detector;

(iii) Each detector shall be manufactured under a registered quality assurance programme;

NOTE: The application of ISO 9001:2008 may be considered acceptable for this purpose.

(iv) Each neutron radiation detector shall be of welded metal construction with brazed metal to ceramic feed through assemblies. These detectors shall have a minimum burst pressure of 1800 kPa as demonstrated by design type qualification testing; and

(v) Each detector shall be tested to a 1 x 10⁻¹⁰ cm³/s leaktightness standard before filling.

.2 Radiation detectors transported as individual components shall be transported as follows:

(i) Detectors shall be packed in a sealed intermediate plastics liner with sufficient absorbent material to absorb the entire gas contents;

(ii) They shall be packed in strong outer packaging. The completed package shall be capable of withstanding a 1.8 m drop test without leakage of gas contents from detectors;

(iii) The total amount of gas from all detectors per outer packaging shall not exceed 52 g.

.3 Completed neutron radiation detection systems containing detectors meeting the conditions of paragraph (a) shall be transported as follows:

(i) The detectors shall be contained in a strong sealed outer casing;

(ii) The casing shall contain sufficient absorbent material to absorb the entire gas contents;

(iii) The completed systems shall be packed in strong outer packagings capable of withstanding a 1.8 m drop test without leakage unless a system's outer casing affords equivalent protection.

Packing instruction P200 of 4.1.4.1 is not applicable.

The transport document shall include the following statement "Transport in accordance with special provision 373".

Neutron radiation detectors containing not more than 1 g of boron trifluoride, including those with solder glass joints, are not subject to this Code provided they meet the requirements in paragraph .1 and are packed in accordance with paragraph .2. Radiation detection systems containing such detectors are not subject to this Code provided they are packed in accordance with paragraph .3.

Nuclear radiation detectors shall be stowed in accordance with stowage Category A.

 Inserted by Res.MSC.372(93)

376	<p><u>Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the Manual of Tests and Criteria shall comply with the requirements of this special provision.</u></p> <p><u>For the purposes of this special provision, these may include, but are not limited to:</u></p> <ul style="list-style-type: none"> - <u>Cells or batteries identified as being defective for safety reasons;</u> - <u>Cells or batteries that have leaked or vented;</u> - <u>Cells or batteries that cannot be diagnosed prior to transport; or</u> - <u>Cells or batteries that have sustained physical or mechanical damage.</u> <p><u>NOTE:</u> <u>In assessing a battery as damaged or defective, the type of battery and its previous use and misuse shall be taken into account.</u></p> <p><u>Cells and batteries shall be transported according to the provisions applicable to UN 3090, UN 3091, UN 3480 and UN 3481, except special provision 230 and as otherwise stated in this special provision. Packages shall be marked "DAMAGED/DEFECTIVE LITHIUM-ION BATTERIES" or "DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES", as applicable. Cells and batteries shall be packed in accordance with packing instructions P908 of 4.1.4.1 or LP904 of 4.1.4.3, as applicable. Cells and batteries liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport shall not be transported except under conditions specified by the competent authority.</u></p>
377	<p><u>Lithium ion and lithium metal cells and batteries and equipment containing such cells and batteries transported for disposal or recycling, either packed together with or packed without non-lithium batteries, may be packaged in accordance with packing instruction P909 of 4.1.4.1.</u></p> <p><u>These cells and batteries are not subject to the requirements of section 2.9.4.</u></p> <p><u>Packages shall be marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING".</u></p> <p><u>Identified damaged or defective batteries shall be transported in accordance with special provision 376 and packaged in accordance with P908 of 4.1.4.1 or LP904 of 4.1.4.3, as applicable.</u></p>
900	<p>The transport of the following substances is prohibited:</p> <ul style="list-style-type: none"> AMMONIUM HYPOCHLORITE AMMONIUM NITRATE liable to self-heating sufficient to initiate decomposition AMMONIUM NITRITES and mixtures of an inorganic nitrite with an ammonium salt CHLORIC ACID, AQUEOUS SOLUTION with more than 10% chloric acid ETHYL NITRITE pure HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with more than 20% hydrogen cyanide HYDROGEN CHLORIDE, REFRIGERATED LIQUID HYDROGEN CYANIDE SOLUTION, IN ALCOHOL with more than 45% hydrogen cyanide MERCURY OXYCYANIDE pure METHYL NITRITE PERCHLORIC ACID with more than 72% acid, by mass SILVER PICRATE, dry or wetted with less than 30% water by mass ZINC AMMONIUM NITRITE <p>See also special provisions 349, 350, 351, 352 and 353.</p>
903	<p>HYPOCHLORITE MIXTURES with 10% or less available CHLORINE are not subject to the provisions of this Code.</p>

904	The provisions of this Code, except for the marine pollution aspects, do not apply to these substances if they are completely miscible with water, except when transported in receptacles with a capacity greater than 250 l and in tanks.
905	May only be shipped as an 80% solution in TOLUENE. The pure product is shock-sensitive and decomposes with explosive violence and the possibility of detonation when heated under confinement. Can be ignited by impact.
907	<p>The consignment shall be accompanied by a certificate from a recognized authority stating:</p> <ul style="list-style-type: none"> - moisture content; - fat content; - details of anti-oxidant treatment for meals older than 6 months (for UN 2216 only); - anti-oxidant concentration at the time of shipment, which must exceed 100 mg/kg (for UN 2216 only); - packing, number of bags and total mass of the consignment; - temperature of fishmeal at the time of despatch from the factory; - date of production. <p>No weathering/curing is required prior to loading. Fishmeal under UN 1374 shall have been weathered for not less than 28 days before shipment. When fishmeal is packed into containers, the containers shall be packed in such a way that the free air space has been restricted to the minimum.</p>
912	This entry also covers solutions in water with concentrations above 70%.
915	This entry shall not be used for wetted explosives, self-reactive substances or metal powders.
916	<p>The provisions of this Code do not apply to this substance when:</p> <ul style="list-style-type: none"> - mechanically produced, with a particle size of 53 microns or greater; or - chemically produced, with a particle size of 840 microns or greater.
917	Scrap with rubber content below 45% or exceeding 840 microns and fully vulcanized hard rubber are not subject to the provisions of this Code.
919	[Deleted]
920	Bars, ingots or sticks are not subject to the provisions of this Code.
921	Zirconium, dry, 254 microns or thicker is not subject to the provisions of this Code.
922	LEAD PHOSPHITE, DIBASIC which is accompanied by the certificate from the shipper stating that the substance, as offered for shipment, has been stabilized in such a way that it does not possess the properties of class 4.1 is not subject to the provisions of this Code.
923	The temperature shall be checked regularly.
925	<p>The provisions of this Code do not apply to:</p> <ul style="list-style-type: none"> - non-activated carbon blacks of mineral origin; - a consignment of carbon if it passes the tests for self-heating substances as reflected in the UN Manual of Tests and Criteria (see 33.3.1.3.3), and is accompanied by a certificate from a laboratory accredited by the competent authority, stating that the product to be loaded has been correctly sampled by trained staff from that laboratory and that the sample was correctly tested and has passed the test; and - carbons made by a steam activation process.
926	This substance shall preferably have been weathered for not less than one month before shipment unless a certificate from a person recognized by the competent authority of the country of shipment states a maximum moisture content of 5%.
927	p-Nitrosodimethylaniline, wetted with more than 50% water is not subject to the provisions of this Code.

928	<p>The provisions of this Code shall not apply to:</p> <ul style="list-style-type: none"> - fishmeal when acidified and wetted with more than 40% water, by mass, irrespective of other factors; - consignments of fishmeal which are accompanied by a certificate issued by a recognized competent authority of the country of shipment or other recognized authority stating that the product has no self-heating properties when transported in packaged form; or - fishmeal manufactured from "white" fish with a moisture content of not more than 12% and a fat content of not more than 5% by mass.
929	<p>If satisfied, as a result of tests, that such relaxation is justified, the competent authority may permit:</p> <ul style="list-style-type: none"> - the seed cakes described as "SEED CAKE, containing vegetable oil (a) mechanically expelled seeds, containing more than 10% of oil or more than 20% of oil and moisture combined" to be transported under conditions governing "SEED CAKE, containing vegetable oil (b) solvent extractions and expelled seeds, containing not more than 10% of oil and, when the amount of moisture is higher than 10% not more than 20% of oil and moisture combined", and - the seed cakes described as "SEED CAKE, containing vegetable oil (b) solvent extractions and expelled seeds, containing not more than 10% of oil and, when the amount of moisture is higher than 10% not more than 20% of oil and moisture combined" to be transported under conditions governing SEED CAKE, UN 2217. <p>Certificates from the shipper shall state oil content and moisture content and shall accompany the shipment.</p>
930	<p>All pesticides can only be carried under the provisions of this class if accompanied by a certificate supplied by the shipper stating that, when in contact with water, it is not combustible and does not show tendency to autoignition, and that the mixture of gases evolved is not flammable. Otherwise, the provisions of class 4.3 shall be applicable.</p>
931	<p>A consignment of this substance which is accompanied by a declaration from the shipper stating that it has no self-heating properties is not subject to the provisions of this Code.</p>
932	<p>Requires a certificate from the maker or shipper, stating that the shipment was stored under cover, but in the open air, in the size in which it was packaged, for not less than 3 days prior to shipment.</p>
934	<p>Requires the percentage range of calcium carbide impurity to be shown on the shipping documents.</p>
935	<p>Substances which do not evolve flammable gases when wet, which are accompanied by a certificate from the shipper stating that the substance, as offered for shipment, does not evolve flammable gases when wet, are not subject to the provisions of this Code.</p>
937	<p>The solid hydrated form of this substance is not subject to the provisions of this Code.</p>
939	<p>A consignment of this substance that is accompanied by a shipper's certificate stating that it does not contain more than 0.05% maleic anhydride is not subject to the provisions of this Code.</p>
942	<p>The concentration and temperature of the solution at the time of loading, its percentage of combustible material and of chlorides as well as the contents of free acid shall be certified.</p>
943	<p>Water-activated articles shall bear a subsidiary risk of class 4.3.</p>
945	<p>Stabilization of fishmeal shall be achieved to prevent spontaneous combustion by effective application</p>
946	<p>Requires certification from the shipper that the substance is not of class 4.2.</p>
948	<p>These substances may be transported in bulk in cargo transport units only if their melting point is 75°C or above.</p>
951	<p>Bulk container shall be hermetically sealed and under a nitrogen blanket.</p>
952	<p>UN 1942 may be transported in bulk container if approved by the competent authority.</p>

954	The provisions of this Code shall not apply to consignments of compressed baled hay with a moisture content of less than 14% shipped in closed cargo transport units and accompanied by a certificate from the shipper stating that the product does not present any class 4.1, UN 1327, hazard in transport and that its moisture content is less than 14%.
955	If a viscous substance and its packaging fulfils the provisions of 2.3.2.5, the packing provisions of chapter 4.1, the marking and labelling provisions of chapter 5.2 and the package testing provisions of chapter 6.1 are not applicable.
957	[Deleted]
958	This entry covers articles, such as rags, cotton waste, clothing or sawdust, containing polychlorinated biphenyls, polyhalogenated biphenyls or polyhalogenated terphenyls where no free visible liquid is present.
959	Waste aerosols authorized for transport under special provision 327 shall only be transported on short international voyages. Long international voyages are authorized only with the approval of the competent authority. Packagings shall be marked and labelled and cargo transport units shall be marked and placarded for appropriate sub-division of class 2 and, if applicable, the subsidiary risk(s).
960	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.
961	<p><u>Internal combustion engines, fuel cell engines, vehicles, and battery-powered equipment are not subject to the provisions of this Code if any of the following conditions are met:</u></p> <p><u>.1 Internal combustion engines, fuel cell engines vehicles, and battery-powered equipment are stowed on the vehicle, special category and ro-ro spaces or on the weather deck of a roll-on/roll-off ship or a cargo space designated by the Administration (flag State) in accordance with SOLAS 74, chapter II-2, regulation 20 as specifically designed and approved for the carriage of vehicles and there are no signs of leakage from the battery, engine, fuel cell, compressed gas cylinder or accumulator, or fuel tank when applicable. When packed in a cargo transport unit the exception does not apply to container cargo spaces of a ro-ro ship. Vehicles powered solely by lithium batteries and hybrid electric vehicles powered by both an internal combustion engine and lithium metal or ion batteries, the battery is of a type proved to meet the requirements of the United Nations Manual of Tests and Criteria, part III, subsection 38.3, unless otherwise approved by the competent Authority;</u></p> <p><u>.2 Internal combustion engines, vehicles powered by a flammable liquid fuel with a flashpoint of 38°C or above, there are no leaks in any portion of the fuel system, the fuel tank(s) contains 450 l of fuel or less and installed batteries are protected from short-circuit.</u></p> <p><u>.3 Internal combustion engines with a fuel tank attached and vehicles powered by a flammable liquid fuel with a flashpoint less than 38°C, the fuel tank(s) are empty and installed batteries are protected from short circuit. The internal combustion engines or vehicle are considered to be empty of flammable liquid fuel when the fuel tank has been drained and the vehicle cannot be operated due to a lack of fuel. Engine components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty. The fuel tank does not need to be cleaned or purged;</u></p> <p><u>.4 Internal combustion engines with an attached fuel tank and vehicles powered by a flammable gas (liquefied or compressed), the fuel tank(s) are empty and the positive pressure in the tank does not exceed 2 bar, the fuel shut-off or isolation valve is closed and secured, and installed batteries are protected from short circuit;</u></p> <p><u>.5 Vehicles or battery powered equipment solely powered by a wet or dry electric storage battery or a sodium battery, and the battery is protected from short circuit;</u></p> <p><u>.6 Internal combustion engines powered by a flammable liquid or flammable gas have been cleaned, drained and purged of all flammable liquids and gases or the engine has been sealed to prevent leakage of any residues; or</u></p> <p><u>.7 Fuel cell engines are protected from inadvertent operation by closing fuel supply lines or by other means and the fuel supply reservoir has been drained and sealed. The fuel supply reservoir does not need to be cleaned or purged.</u></p> <p><u>Notwithstanding above, dangerous goods required for the operation of the internal combustion engines or the vehicle</u></p>

or for the safety of the operator such as fire extinguishers, compressed gas cylinders, accumulators, airbag inflators, starter batteries, etc., shall be securely mounted. All other dangerous goods in the vehicle shall be separately packaged and consigned for transport, as appropriate, in accordance with this Code. For fuel cell engines, all dangerous goods other than fuel and fuel cells shall be separately packaged and consigned for transport, as appropriate, in accordance with this Code.

962

Internal combustion engines, vehicles, fuel cell engines, or battery powered equipment not meeting the conditions of special provision 961 shall be assigned to class 9 and shall meet the following requirements:

.1 internal combustion engines, vehicles, combustion engines, fuel cell engines or battery powered equipment shall not show signs of leakage from batteries, engines, fuel cells, compressed gas cylinders or accumulators, or fuel tank(s) when applicable;

.2 for flammable liquid powered vehicles and internal combustion engines the fuel tank(s) containing the flammable liquid shall not be more than one fourth full and in any case the flammable liquid shall not exceed 250 l unless otherwise approved by the competent authority;

.3 for flammable gas powered vehicles and internal combustion engines, the fuel shut-off valve of the fuel tank(s) shall be securely closed;

.4 installed batteries shall be protected from damage, short circuit, and accidental activation during transport. Lithium ion or lithium metal batteries shall be of a type proved to meet the requirements of the United Nations Manual of Tests and Criteria, part III, subsection 38.3, unless otherwise approved by the competent authority; and

Notwithstanding above dangerous goods required for the operation of the internal combustion engines or the vehicle or for the safety of the operator such as fire extinguishers, compressed gas accumulators, airbag inflators, starter batteries, etc., shall be securely mounted. The provisions of this Code relevant to marking, labelling, placarding and marine pollutants shall not apply

963	Nickel-metal hydride button cells or nickel-metal hydride cells or batteries packed with or contained in equipment are not subject to the provisions of this Code. All other nickel-metal hydride cells or batteries shall be securely packed and protected from short circuit. They are not subject to other provisions of this Code provided that they are loaded in a cargo transport unit in a total quantity of less than 100 kg gross mass. When loaded in a cargo transport unit in a total quantity of 100 kg gross mass or more, they are not subject to other provisions of this Code except those of 5.4.1, 5.4.3 and <u>column (16a) and (16b)</u> of the Dangerous Goods List in chapter 3.2
964	This substance is not subject to the provisions of this Code when transported in non-friable pills or granules form and if it passes the test for oxidizing solid substances as reflected in the United Nations Manual of Tests and Criteria (see 34.4.1) and is accompanied by a certificate from a laboratory accredited by a competent authority, stating that the product has been correctly sampled by trained staff from the laboratory and that the sample was correctly tested and has passed the test.
965	<p>.1 When transported in cargo transport units, the cargo transport units shall provide an adequate exchange of air in the unit (e.g., by using a ventilated container, open-top container or container in one door off operation) to prevent the build-up of an explosive atmosphere. Alternatively, these entries shall be transported under temperature control in refrigerated cargo transport units that comply with the provisions of 7.3.7.6. When cargo transport units with venting devices are used, these devices shall be kept clear and operable. When mechanical devices are used for ventilation, they shall be explosion-proof to prevent ignition of flammable vapours from the substances.</p> <p>.2 The provisions of .1 do not apply if:</p> <ul style="list-style-type: none"> a) the substance is packed in hermetically sealed packagings or IBCs, which conform to packing group II performance level for liquid dangerous goods according to the provisions of 6.1 or 6.5, respectively; and b) the marked hydraulic test pressure exceeds 1.5 times the total gauge pressure in the packagings or IBCs determined at 55°C for the respective filling goods according to 4.1.1.10.1. <p>.3 Where the substance is loaded in closed cargo transport units, the provisions of 7.3.6.1 shall be met.</p> <p>.4 Cargo transport units shall be marked with a warning mark including the words "CAUTION - MAY CONTAIN FLAMMABLE VAPOUR" with lettering not less than 25 mm high. This mark shall be affixed at each access point in a location where it will be easily seen by persons prior to opening or entering the cargo transport unit and shall remain on the cargo transport unit until the following provisions are met:</p> <ul style="list-style-type: none"> a) the cargo transport unit has been completely ventilated to remove any hazardous concentration of vapour or gas; b) the immediate vicinity of the cargo transport unit is clear of any source of ignition; and c) the goods have been unloaded.
966	Sheeted bulk containers (BK1) are only permitted in accordance with 4.3.3.
967	Flexible bulk containers (BK3) are only permitted in accordance with 4.3.4.
968	<u>This entry shall not be used for sea transport. Discarded packaging shall meet the requirements of 4.1.1.11.</u>
969	<u>Substances classified in accordance to 2.9.3 are subject to the provisions for marine pollutants. Substances which are transported under UN 3077 and 3082 but which do not meet the criteria of 2.9.3 (see 2.9.2.2) are not subject to the provisions for marine pollutants. However for substances that are identified as marine pollutants in this Code (see Index) but which no longer meet the criteria of 2.9.3, the provisions of 2.10.2.6 apply.</u>

This entry only applies to internal combustion engines (including machinery or equipment powered by such engines) to fuel cell engines, and to vehicles powered by flammable liquid, flammable gas and fuel cells containing flammable liquid or gas (including hybrid electric vehicles, see SP 312 or SP 240).

970

For the purposes of this entry vehicles are defined as road vehicles (e.g. cars, motorcycles), boats, aircraft, wheeled or tracked construction or farming equipment and any other self-propelled apparatus designed to carry one or more persons or goods. For internal combustion engines where the requirement of Special Provisions 961 or 962 are not met, an appropriate name and description shall be selected and the relevant provisions of this Code shall apply. If a vehicle is powered by a flammable liquid and a flammable gas internal combustion engine, it shall be assigned to UN 3166 VEHICLE, FLAMMABLE GAS POWERED. (👉 Inserted by [Res.MSC.372\(93\)](#))