

## ประกาศกรมเจ้าท่า

ที่ ๑๙๑/๒๕๖๕

เรื่อง การดำเนินการต่อสิ่งของที่อาจทำให้เกิดอันตรายขึ้นได้ทางน้ำระหว่างประเทศ

ตามที่องค์การทางทะเลระหว่างประเทศ (International Maritime Organization: IMO) ได้กำหนดในอนุสัญญาระหว่างประเทศว่าด้วยความปลอดภัยแห่งชีวิตในทะเล ค.ศ. ๑๙๗๔ และที่แก้ไขเพิ่มเติม (International Convention for the Safety of Life at Sea, 1974 as amended (SOLAS 1974)) บทที่ VII Carriage of dangerous goods กำหนดให้ใช้ประมวลข้อบังคับว่าด้วยการขนส่งสิ่งของที่อาจทำให้เกิดอันตรายขึ้นได้ทางน้ำระหว่างประเทศ (International Maritime Dangerous Goods Code: IMDG Code) ดังนั้น เพื่อให้การปฏิบัติตามพันธกรณีระหว่างประเทศเป็นไปตามหลักเกณฑ์และมาตรฐานสากล รวมถึง การบังคับใช้กฎหมายมีประสิทธิภาพ และเกิดประสิทธิผลสูงสุด ตลอดจนไม่เป็นภาระแก่ผู้ประกอบการโดยไม่จำเป็น

อาศัยอำนาจตามความในข้อ ๑๗ แห่งกฎกระทรวงการดำเนินการสำหรับสิ่งของที่อาจทำให้เกิดอันตรายขึ้นได้ พ.ศ. ๒๕๖๔ และมาตรา ๑๙๐ แห่งพระราชบัญญัติการเดินเรือในน่านน้ำไทย พระพุทธศักราช ๒๔๕๖ แก้ไขเพิ่มเติมโดยพระราชบัญญัติการเดินเรือในน่านน้ำไทย (ฉบับที่ ๑๔) พ.ศ. ๒๕๓๕ อธิบดีกรมเจ้าท่า จึงออกประกาศไว้ ดังต่อไปนี้

ข้อ ๑ ประกาศนี้ให้ใช้บังคับนับถัดจากวันที่ประกาศในราชกิจจานุเบกษาเป็นต้นไป

ข้อ ๒ ให้นายเรือ เจ้าของเรือ ตัวแทนเจ้าของเรือ ผู้ส่งสินค้าทางเรือ และผู้รับขนส่งสินค้าทางเรือ ดำเนินการปรับใช้แนวทางและข้อกำหนดเกี่ยวกับการบรรจุหีบห่อ การจัดเก็บ การจัดแยก การจัดทำและแสดงเครื่องหมาย การจัดให้มีเอกสารที่จำเป็น และการขนถ่ายสิ่งของที่อาจทำให้เกิดอันตรายขึ้นได้ ทั้งนี้ ให้เป็นไปตามโดยสอดคล้องกับประมวลข้อบังคับว่าด้วยการขนส่งสิ่งของที่อาจทำให้เกิดอันตรายขึ้นได้ทางน้ำระหว่างประเทศ (IMDG Code) โดยรายละเอียดเป็นไปตามภาคผนวกที่แนบท้ายประกาศนี้

ประกาศ ณ วันที่ ๒๕ สิงหาคม พ.ศ. ๒๕๖๕

อานนท์ เหลืองบริบูรณ์

รองปลัดกระทรวงคมนาคม รักษาการแทน

อธิบดีกรมเจ้าท่า

# **PART 7**

## **PROVISIONS CONCERNING TRANSPORT OPERATIONS**



# Chapter 7.1

## General stowage provisions

### 7.1.1 Introduction

This chapter contains the general provisions for the stowage of dangerous goods in all types of ships. Specific provisions applicable to, container ships, ro-ro ships, general cargo ships and barge carrying ships, are stipulated in chapters 7.4 to 7.7.

### 7.1.2 Definitions

**Note 1:** The term “magazine” is no longer used in the context of the IMDG Code. A magazine that is not a fixed part of the ship shall meet the provisions for a closed cargo transport unit for class 1 (see 7.1.2). A magazine that is a fixed part of the ship such as compartment, below deck area or hold shall meet the provisions of 7.6.2.4.

**Note 2:** Cargo holds cannot be interpreted as closed cargo transport units.

*Clear of living quarters* means that packages or cargo transport units shall be stowed a minimum distance of 3 m from accommodation, air intakes, machinery spaces and other enclosed work areas.

*Closed cargo transport unit for class 1* means a unit which fully encloses the contents by permanent structures, can be secured to the ship's structure and is, except for division 1.4, structurally serviceable as defined in this section. Cargo transport units with fabric sides or tops are not closed cargo transport units. The floor of any closed cargo transport unit shall either be constructed of wood, close-boarded, or so arranged that goods are stowed on sparred gratings, wooden pallets or dunnage.

*Combustible material* means material which may or may not be dangerous goods but which is easily ignited and supports combustion. Examples of combustible materials include wood, paper, straw, vegetable fibres, products made from such materials, coal, lubricants, and oils. This definition does not apply to packaging material or dunnage.

*Potential sources of ignition* means, but is not limited to, open fires, machinery exhausts, galley uptakes, electrical outlets and electrical equipment including those on refrigerated or heated cargo transport units unless they are of certified safe type.\*

*Protected from sources of heat* means that packages and cargo transport units shall be stowed at least 2.4 m from heated ship structures, where the surface temperature is liable to exceed 55°C. Examples of heated structures are steam pipes, heating coils, top or side walls of heated fuel and cargo tanks, and bulkheads of machinery spaces. In addition, packages not loaded inside a cargo transport unit and stowed on deck shall be shaded from direct sunlight. The surface of a cargo transport unit can heat rapidly when in direct sunlight in nearly windless conditions and the cargo may also become heated. Depending on the nature of the goods in the cargo transport unit and the planned voyage precautions shall be taken to ensure that exposure to direct sunlight is reduced.

*Stowage* means the proper placement of dangerous goods on board a ship in order to ensure safety and environmental protection during transport.

*Stowage on deck* means stowage on the weather deck. For open ro-ro cargo spaces see 7.5.2.6.

*Stowage under deck* means any stowage that is not on the weather deck. For hatchless containerships see 7.4.2.1.

*Structurally serviceable for class 1* means the cargo transport unit shall not have major defects in its structural components, e.g. top and bottom rails, top and bottom end rails, door sill and header, floor cross-members, corner posts, and corner fittings in a freight container. Major defects are: dents or bends in the structural

\* For cargo spaces, refer to SOLAS II-2/19.3.2 and for refrigerated or heated cargo transport units refer to Recommendations published by the International Electrotechnical Commission, in particular IEC 60079.

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members greater than 19 mm in depth, regardless of length; cracks or breaks in structural members; more than one splice (e.g. a lapped splice) in top or bottom end rails or door headers; more than two splices in any one top or bottom side rail or any splice in a door sill or corner post; door hinges and hardware that are seized, twisted, broken, missing or otherwise inoperative; gaskets and seals that do not seal; or, for freight containers, any distortion of the overall configuration great enough to prevent proper alignment of handling equipment, mounting and securing on chassis or vehicle, or insertion into ship's cells. In addition, deterioration in any component of the cargo transport unit, regardless of the material of construction, such as rusted-out metal in sidewalls or disintegrated fibreglass, is unacceptable. Normal wear, however, including oxidation (rust), slight dents and scratches and other damage that does not affect serviceability or the weathertight integrity of the units, is acceptable.

**7.1.3 Stowage categories****7.1.3.1 Stowage categories for class 1**

Dangerous goods of class 1 other than division 1.4, compatibility group S, packed in limited quantities shall be stowed as indicated in column 16a of the Dangerous Goods List in accordance with one of the categories specified below.

<b>Stowage category 01</b>	Cargo ships (up to 12 passengers)	On deck in closed cargo transport unit or under deck
	Passenger ships	On deck in closed cargo transport unit or under deck
<b>Stowage category 02</b>	Cargo ships (up to 12 passengers)	On deck in closed cargo transport unit or under deck
	Passenger ships	On deck in closed cargo transport unit or under deck in closed cargo transport unit in accordance with 7.1.4.4.6
<b>Stowage category 03</b>	Cargo ships (up to 12 passengers)	On deck in closed cargo transport unit or under deck
	Passenger ships	Prohibited except if in accordance with 7.1.4.4.6
<b>Stowage category 04</b>	Cargo ships (up to 12 passengers)	On deck in closed cargo transport unit or under deck in closed cargo transport unit
	Passenger ships	Prohibited except if in accordance with 7.1.4.4.6
<b>Stowage category 05</b>	Cargo ships (up to 12 passengers)	On deck only in closed cargo transport unit
	Passenger ships	Prohibited except if in accordance with 7.1.4.4.6

**7.1.3.2 Stowage categories for classes 2 to 9**

Dangerous goods of classes 2 to 9 and division 1.4, compatibility group S, packed in limited quantities shall be stowed as indicated in column 16a of the Dangerous Goods List in accordance with one of the categories specified below:

**Stowage category A**

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number	}	ON DECK OR UNDER DECK
Other passenger ships in which the limiting number of passengers transported is exceeded		

**Stowage category B**

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number	}	ON DECK OR UNDER DECK
Other passenger ships in which the limiting number of passengers transported is exceeded		

**Stowage category C**

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number	} ON DECK ONLY
Other passenger ships in which the limiting number of passengers transported is exceeded	

**Stowage category D**

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number	} ON DECK ONLY
Other passenger ships in which the limiting number of passengers transported is exceeded	

**Stowage category E**

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number	} ON DECK OR UNDER DECK
Other passenger ships in which the limiting number of passengers transported is exceeded	

**7.1.4 Special stowage provisions****7.1.4.1 Stowage of empty uncleaned packagings, including IBCs and large packagings**

Notwithstanding the stowage provisions given in the Dangerous Goods List, empty uncleaned packagings, including IBCs and large packagings, which shall be stowed *on deck only* when full may be stowed *on deck or under deck* in a mechanically ventilated cargo space. However, empty uncleaned pressure receptacles which carry a label of class 2.3 shall be stowed *on deck only* (see also 4.1.1.11) and waste aerosols shall only be stowed according to column 16a of the Dangerous Goods List.

**△ 7.1.4.2 Stowage of marine pollutants and infectious substances of UN 2814, UN 2900 and UN 3549**

Where stowage is permitted *on deck or under deck*, *under deck* stowage is preferred. Where stowage *on deck only* is required, preference shall be given to stowage on well-protected decks or to stowage inboard in sheltered areas of exposed decks.

**7.1.4.3 Stowage of limited quantities and excepted quantities**

For the stowage of limited quantities and excepted quantities see chapters 3.4 and 3.5.

**7.1.4.4 Stowage of goods of class 1**

**7.1.4.4.1** In cargo ships of 500 gross tons or over and passenger ships constructed before 1 September 1984 and in cargo ships of less than 500 gross tons constructed before 1 February 1992, goods of class 1 with the exception of division 1.4, compatibility group S, shall be stowed *on deck only*, unless otherwise approved by the Administration.

**△ 7.1.4.4.2** Goods of class 1 with the exception of division 1.4 shall be stowed not less than a horizontal distance of 12 m from living quarters, life-saving appliances\* and areas where the ship's passengers can access without any authorization or limitation.

**7.1.4.4.3** Goods of class 1 with the exception of division 1.4 shall not be positioned closer to the ship's side than a distance equal to one eighth of the beam or 2.4 m, whichever is the lesser.

**7.1.4.4.4** Goods of class 1 shall not be stowed within a horizontal distance of 6 m from potential sources of ignition.

**7.1.4.4.5 Transport to or from offshore oil platforms, mobile offshore drilling units and other offshore installations**

Notwithstanding the stowage category indicated in column 16a of the Dangerous Goods List, UN 0124 JET PERFORATING GUNS, CHARGED, and UN 0494 JET PERFORATING GUNS, CHARGED, transported to or from offshore oil platforms, mobile offshore drilling units and other offshore installations may be stowed on deck in offshore well tool pallets, cradles or baskets provided that:

- .1 initiation devices shall be segregated from each other and from any jet perforating guns in accordance with the provisions of 7.2.7, and from any other dangerous goods in accordance with the provisions of 7.2.4 and 7.6.3.2, unless otherwise approved by the competent authority;

\* Refer to the Unified Interpretation on 7.1.4.4.2 of the IMDG Code on the issue of "life-saving appliances" (MSC.1/Circ.1626).

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- .2 jet perforating guns shall be securely held in place during transport;
- .3 each shaped charge affixed to any gun shall not contain more than 112 g of explosives;
- .4 each shaped charge, if not completely enclosed in glass or metal, shall be fully protected by a metal cover following installation in the gun;
- .5 both ends of jet perforating guns shall be protected by means of steel end caps allowing for pressure release in the event of fire;
- .6 the total explosive content shall not exceed 95 kg per well tool pallet, cradle or basket; and
- .7 where more than one well tool pallet, cradle or basket is stowed "on deck", a minimum horizontal distance of 3 m shall be observed between them.

**7.1.4.4.6 Stowage on passenger ships**

7.1.4.4.6.1 Goods in division 1.4, compatibility group S, may be transported in any amount on passenger ships. No other goods of class 1 may be transported on passenger ships except:

- .1 goods in compatibility groups C, D and E and articles in compatibility group G, if the total net explosive mass does not exceed 10 kg per ship and if they are transported in closed cargo transport units *on deck or under deck*;
- .2 articles in compatibility group B, if the total net explosive mass does not exceed 10 kg per ship and if they are transported *on deck only* in closed cargo transport units.

7.1.4.4.7 Alternative arrangements to those prescribed in chapter 7.1 for class 1 may be approved by the Administration.

**7.1.4.5 Stowage of goods of class 7**

- △ 7.1.4.5.1 The total activity in a single cargo space of a sea going vessel for transport of LSA material or SCO in Type IP 1, Type IP 2, Type IP 3 packaging or unpackaged shall not exceed the limits shown in the table hereunder. For SCO-III, the limits in the table hereunder may be exceeded provided that the transport plan contains precautions which are to be employed during transport to obtain an overall level of safety at least equivalent to that which would be provided if the limits had been applied.

**Conveyance activity limits for LSA material and SCO  
in industrial packages or unpackaged**

Nature of material	Activity limit for a seagoing vessel
LSA I	No limit
LSA II and LSA III non-combustible solids	No limit
LSA II and LSA III combustible solids, and all liquids and gases	100A <sub>2</sub>
SCO	100A <sub>2</sub>

7.1.4.5.2 Provided that its average surface heat flux does not exceed 15 W/m<sup>2</sup> and that the immediately surrounding cargo is not in sacks or bags, a package or overpack may be transported or stored among packaged general cargo without any special stowage provisions except as may be specifically required by the competent authority in an applicable certificate of approval.

7.1.4.5.3 Loading of freight containers and accumulation of packages, overpacks and freight containers shall be controlled as follows:

- .1 Except under the condition of exclusive use, the total number of packages, overpacks and freight containers aboard a single conveyance shall be so limited that the total sum of the transport indexes aboard the conveyance does not exceed the values shown in the table hereunder. For consignments of LSA I material there shall be no limit on the sum of the transport indexes.

## TI limits for freight containers and conveyances not under exclusive use

Type of freight container or conveyance	Limit on total sum of transport indexes in a freight container or aboard a conveyance
Freight container	
Small freight container	50
Large freight container	50
Vehicle	50
Inland water-way vessel (barge)	50
Seagoing vessel <sup>a</sup>	
1 <i>Hold, compartment or defined deck area</i>	
Packages, overpacks, small freight containers	50
Large freight containers (closed containers)	200
2 <i>Total vessel</i>	
Packages, overpacks, small freight containers	200
Large freight containers (closed containers)	No limit

<sup>a</sup> Packages or overpacks transported in or on a vehicle which are in accordance with the provisions of 7.1.4.5.5 may be transported by vessels provided that they are not removed from the vehicle at any time while on board the ship.

- .2 Where a consignment is transported under exclusive use, there shall be no limit on the sum of the transport indexes aboard a single conveyance.
- △ .3 The dose rate under routine conditions of transport shall not exceed 2 mSv/h at any point on the external surface of the vehicle or freight container, and 0.1 mSv/h at 2 m from the external surface of the vehicle or freight container, except for consignments transported under exclusive use by road or rail for which the dose rate limits around the vehicle are set forth in 7.1.4.5.5.2 and 7.1.4.5.5.3.
- .4 The total sum of the criticality safety indexes in a freight container and aboard a conveyance shall not exceed the values shown in the table hereunder.

## CSI limits for freight containers and conveyances containing fissile material

Type of freight container or conveyance	Limit on total sum of criticality safety indexes in a freight container or aboard a conveyance	
	Not under exclusive use	Under exclusive use
Freight container		
Small freight container	50	n.a.
Large freight container	50	100
Vehicle	50	100
Inland water-way vessel (barge)	50	100
Seagoing vessel <sup>a</sup>		
1 <i>Hold, compartment or defined deck area</i>		
Packages, overpacks, small freight containers	50	100
Large freight containers (closed containers)	50	100
2 <i>Total vessel</i>		
Packages, overpacks, small freight containers	200 <sup>b</sup>	200 <sup>c</sup>
Large freight containers (closed containers)	No limit <sup>b</sup>	No limit <sup>c</sup>

<sup>a</sup> Packages or overpacks transported in or on a vehicle which are in accordance with the provisions of 7.1.4.5.5 may be transported by ships provided that they are not removed from the vehicle at any time while on board the ship. In that case, the entries under the heading “under exclusive use” apply.

<sup>b</sup> The consignment shall be so handled and stowed that the total sum of CSIs in any group does not exceed 50, and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups.

<sup>c</sup> The consignment shall be so handled and stowed that the total sum of CSIs in any group does not exceed 100, and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups. The intervening space between groups may be occupied by other cargo.

- 7.1.4.5.4 Any package or overpack having either a transport index greater than 10, or any consignment having a criticality safety index greater than 50, shall be transported only under exclusive use.



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7.1.4.5.5 For consignments under exclusive use, the dose rate shall not exceed:

- .1 10 mSv/h at any point on the external surface of any package or overpack, and may only exceed 2 mSv/h provided that:
  - .1 the vehicle is equipped with an enclosure which, during routine conditions of transport, prevents the access of unauthorized persons to the interior of the enclosure, and
  - .2 provisions are made to secure the package or overpack so that its position within the vehicle enclosure remains fixed during routine conditions of transport, and
  - .3 there is no loading or unloading during the shipment;
- .2 2 mSv/h at any point on the outer surfaces of the vehicle, including the upper and lower surfaces, or, in the case of an open vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external surface of the vehicle; and
- .3 0.1 mSv/h at any point 2 m from the vertical planes represented by the outer lateral surfaces of the vehicle, or, if the load is transported in an open vehicle, at any point 2 m from the vertical planes projected from the outer edges of the vehicle.

7.1.4.5.6 In the case of road vehicles, no persons other than the driver and assistants shall be permitted in vehicles carrying packages, overpacks or freight containers bearing category II-YELLOW or III-YELLOW labels.

7.1.4.5.7 Packages or overpacks having a surface dose rate greater than 2 mSv/h, unless being transported in or on a vehicle under exclusive use in accordance with the table under 7.1.4.5.3, footnote (a), shall not be transported by ship except under special arrangement.

7.1.4.5.8 The transport of consignments by means of a special use ship which, by virtue of its design or by reason of its being chartered, is dedicated to the purpose of carrying radioactive material shall be excepted from the provisions specified in 7.1.4.5.3 provided that the following conditions are met:

- .1 a radiation protection programme for the shipment shall be approved by the Administration and, when requested, by the competent authority at each port of call;
- .2 stowage arrangements shall be predetermined for the whole voyage, including any consignments to be loaded at ports of call en route; and
- .3 the loading, transport and unloading of the consignments shall be supervised by persons qualified in the transport of radioactive material.

7.1.4.5.9 Any conveyance and equipment used regularly for the transport of radioactive material shall be periodically checked to determine the level of contamination. The frequency of such checks shall be related to the likelihood of contamination and the extent to which radioactive material is transported.

7.1.4.5.10 Except as provided in 7.1.4.5.11, any conveyance, or equipment or part thereof, which has become contaminated above the limits specified in 4.1.9.1.2 in the course of the transport of radioactive material, or which shows a dose rate in excess of 5  $\mu$ Sv/h at the surface, shall be decontaminated as soon as possible by a qualified person and shall not be re-used unless the following conditions are fulfilled:

- .1 the non-fixed contamination shall not exceed the limits specified in 4.1.9.1.2;
- .2 the dose rate resulting from the fixed contamination shall not exceed 5  $\mu$ Sv/h at the surface.

△ 7.1.4.5.11 A freight container or conveyance dedicated to the transport of unpackaged radioactive material under exclusive use shall be excepted from the provisions of 4.1.9.1.4 and 7.1.4.5.10 solely with regard to its internal surfaces and only for as long as it remains under that specific exclusive use.

7.1.4.5.12 Where a consignment is undeliverable, the consignment shall be placed in a safe location and the appropriate competent authority shall be informed as soon as possible and a request made for instructions on further action.

7.1.4.5.13 Radioactive material shall be segregated sufficiently from crew and passengers. The following values for dose shall be used for the purpose of calculating segregation distances or dose rates:

- .1 for crew in regularly occupied working areas, a dose of 5 mSv in a year;
- .2 for passengers, in areas where the passengers have regular access, a dose of 1 mSv in a year, taking account of the exposures expected to be delivered by all other relevant sources and practices under control.

7.1.4.5.14 Category II-YELLOW or III-YELLOW packages or overpacks shall not be transported in spaces occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages or overpacks.

- 7.1.4.5.15** Any group of packages, overpacks and freight containers containing fissile material stored in transit in any one storage area shall be so limited that the total sum of the criticality safety indexes in the group does not exceed 50. Each group shall be stored so as to maintain a spacing of at least 6 m from other such groups.
- 7.1.4.5.16** Where the total sum of the criticality safety indexes on board a conveyance or in a freight container exceeds 50, as permitted in the table under 7.1.4.5.3.4, storage shall be such as to maintain a spacing of at least 6 m from other groups of packages, overpacks or freight containers containing fissile material or other conveyances carrying radioactive material.
- 7.1.4.5.17** Any departure from the provisions in 7.1.4.5.15 and 7.1.4.5.16 shall be approved by the Administration and, when requested, by the competent authority at each port of call.
- 7.1.4.5.18** The segregation requirements specified in 7.1.4.5.13 may be established in one of the following two ways:
- by following the segregation table for persons (table 7.1.4.5.18) in respect of living quarters or spaces regularly occupied by persons.
  - by demonstration that, for the following indicated exposure times, the direct measurement of the dose rate in regularly occupied spaces and living quarters is less than:
 

*for the crew:*  
0.0070 mSv/h up to 700 h in a year, or  
0.0018 mSv/h up to 2750 h in a year; and

*for the passengers:*  
0.0018 mSv/h up to 550 h in a year,

taking into account any relocation of cargo during the voyage. In all cases, the measurements of dose rate must be made and documented by a suitably qualified person.
- 7.1.4.6 Stowage of dangerous goods under temperature control**
- 7.1.4.6.1** When stowage arrangements are made, it shall be borne in mind that it may become necessary to take the appropriate emergency action, such as jettisoning or flooding of the container with water, and the temperature needs to be monitored in accordance to 7.3.7. If, during transport, the control temperature is exceeded, an alerting procedure shall be initiated involving either repair of the refrigeration machinery or an increase in the cooling capacity (such as by adding liquid or solid refrigerants). If an adequate cooling capacity is not restored, emergency procedures shall be started.
- 7.1.4.7 Stowage of stabilized dangerous goods**
- △ For substances, for which the word “STABILIZED” is added as part of the proper shipping name of the substances in accordance with 3.1.2.6, Stowage Category D and SW1 shall apply.

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Table 7.1.4.5.18 – CLASS 7 – Radioactive material  
Segregation table for persons

Sum of transport indices (TI)	Segregation distance of radioactive material from passengers and crew			
	General cargo ship <sup>1</sup>		Ferry, etc. <sup>2</sup>	Offshore support vessel <sup>3</sup>
	Break bulk (m)	Containers (TEUs) <sup>4</sup>		
Up to 10	6	1	Stow at bow or stern furthest from living quarters and regularly occupied work areas	Stow at stern or at platform midpoint
More than 10 but not more than 20	8	1	as above	as above
More than 20 but not more than 50	13	2	as above	not applicable
More than 50 but not more than 100	18	3	as above	not applicable
More than 100 but not more than 200	26	4	as above	not applicable
More than 200 but not more than 400	36	6	as above	not applicable

<sup>1</sup> General cargo, break bulk or ro-ro containership of 150 m minimum length.<sup>2</sup> Ferry or cross channel, coastal and inter-island ship of 100 m minimum length.<sup>3</sup> Offshore support vessel of 50 m minimum length (in this case the practical maximum sum of TIs carried is 20).<sup>4</sup> TEU means "20 ft Equivalent Unit" (this is equivalent to a standard freight container of 6 m nominal length).

## 7.1.5 Stowage codes

The stowage codes given in column 16a of the Dangerous Goods List are as specified below:

Stowage code	Description
SW1	Protected from sources of heat.
SW2	Clear of living quarters.
SW3	Shall be transported under temperature control.
SW4	Surface ventilation is required to assist in removing any residual solvent vapour.
SW5	If under deck, stow in a mechanically ventilated space.
SW6	When stowed under deck, mechanical ventilation shall be in accordance with SOLAS regulation II-2/19 (II-2/54) for flammable liquids with flashpoint below 23°C c.c.
SW7	As approved by the competent authorities of the countries involved in the shipment.
SW8	Ventilation may be required. The possible need to open hatches in case of fire to provide maximum ventilation and to apply water in an emergency, and the consequent risk to the stability of the ship through flooding of the cargo spaces, shall be considered before loading.
SW9	Provide a good through ventilation for bagged cargo. Double strip stowage is recommended. The illustration in 7.6.2.7.2.3 shows how this can be achieved. During the voyage regular temperature readings shall be taken at varying depths in the hold and recorded. If the temperature of the cargo exceeds the ambient temperature and continues to increase, ventilation shall be closed down.
SW10	Unless carried in closed cargo transport units, bales shall be properly covered by tarpaulins or the like. Cargo spaces shall be clean, dry and free from oil or grease. Ventilator cowls leading into the cargo space shall have sparking-preventing screens. All other openings, entrances and hatches leading to the cargo space shall be securely closed. During temporary interruption of loading, when the hatch remains uncovered, a fire-watch shall be kept. During loading or discharge, smoking in the vicinity shall be prohibited and fire-fighting appliances kept ready for immediate operation.

Stowage code	Description
SW11	Cargo transport units shall be shaded from direct sunlight. Packages in cargo transport units shall be stowed so as to allow for adequate air circulation throughout the cargo.
SW12	Taking account of any supplementary requirements specified in the transport documents.
SW13	Taking account of any supplementary requirements specified in the competent authority approval certificate(s).
SW14	Category A only if the special stowage provisions of 7.4.1.4 and 7.6.2.8.4 are complied with.
SW15	For metal drums, stowage category B.
SW16	For unit loads in open cargo transport units, stowage category B.
SW17	Category E, for closed cargo transport unit and pallet boxes only. Ventilation may be required. The possible need to open hatches in case of fire to provide maximum ventilation and to apply water in an emergency, and the consequent risk to the stability of the ship through flooding of the cargo space, shall be considered before loading.
SW18	Category A, when transported in accordance with P650.
SW19	For batteries transported in accordance with special provisions 376 or 377, category C, unless transported on a short international voyage.
SW20	For uranyl nitrate hexahydrate solution stowage, category D applies.
SW21	For uranium metal pyrophoric and thorium metal pyrophoric stowage, category D applies.
△ SW22	For AEROSOLS with a maximum capacity of 1 L: category A. For AEROSOLS with a capacity above 1 L: category B. For WASTE AEROSOLS or WASTE GAS CARTRIDGES: category C, clear of living quarters.
SW23	When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
SW24	For special stowage provisions, see 7.4.1.3 and 7.6.2.7.2.
SW25	For special stowage provisions, see 7.6.2.7.3.
SW26	For special stowage provisions, see 7.4.1.4 and 7.6.2.11.1.1.
SW27	For special stowage provisions, see 7.6.2.7.2.1.
SW28	As approved by the competent authority of the country of origin.
SW29	For engines or machinery containing fuels with flashpoint equal or greater than 23°C, stowage Category A.
SW30	For special stowage provisions, see 7.1.4.4.5.

## 7.1.6 Handling codes

The handling codes given in column 16a of the Dangerous Goods List are as specified below:

Handling code	Description
H1	Keep as dry as reasonably practicable.
H2	Keep as cool as reasonably practicable.
H3	During transport, it should be stowed (or kept) in a cool ventilated place.
H4	If cleaning of cargo spaces has to be carried out at sea, the safety procedures followed and standard of equipment used shall be at least as effective as those employed as industry best practice in a port. Until such cleaning is undertaken, the cargo spaces in which the asbestos has been carried shall be closed and access to those spaces shall be prohibited.
■ H5	Avoid handling the packaging or large packaging or keep handling to a minimum. Inform the appropriate public health authority or veterinary authority where persons or animals may have been exposed.

## Chapter 7.2

### *General segregation provisions*

#### 7.2.1 Introduction

This chapter contains the general provisions for the segregation of goods which are mutually incompatible.

Additional segregation provisions are given in:

- 7.3 Consigning operations concerning the packing and use of cargo transport units (CTUs) and related provisions;
- 7.4 Stowage and segregation on containerships;
- 7.5 Stowage and segregation on roll-on/roll-off ships;
- 7.6 Stowage and segregation on general cargo ships; and
- 7.7 Shipborne barges on barge-carrying ships.

#### 7.2.2 Definitions

##### 7.2.2.1 Segregation

*Segregation* is the process of separating two or more substances or articles which are considered mutually incompatible when their packing or stowage together may result in undue hazards in case of leakage or spillage, or any other accident.

However, as the extent of the hazard arising may vary, the segregation arrangements required may also vary as appropriate. Segregation is obtained by maintaining certain distances between incompatible dangerous goods or by requiring the presence of one or more steel bulkheads or decks between them, or a combination thereof. Intervening spaces between such dangerous goods may be filled with other cargo compatible with the dangerous substances or articles in question.

##### 7.2.2.2 Segregation terms

The following segregation terms that are used throughout this Code are defined in other chapters of this part as they apply to packing cargo transport units and segregation on board different ship types:

- .1 “away from”;
- .2 “separated from”;
- .3 “separated by a complete compartment or hold from”;
- .4 “separated longitudinally by an intervening complete compartment or hold from”.

Segregation terms such as “away from class ...” that are used in the Dangerous Goods List, “class ...” is deemed to include:

- .1 all substances within “class ...”; and
- .2 all substances for which a subsidiary hazard label of “class ...” is required.

#### 7.2.3 Segregation provisions

7.2.3.1 To determine the segregation requirements between two or more dangerous goods, the segregation provisions, including the segregation table (7.2.4) and column 16b of the Dangerous Goods List shall be consulted, see also the annex to this chapter. In case of conflicting provisions, the provisions of column 16b of the Dangerous Goods List, always take precedence.

7.2.3.2 Whenever a segregation term applies (see 7.2.2.2), the goods are:

- .1 not permitted to be packed in the same outer packaging; and
- .2 not permitted to be transported in the same cargo transport unit except as provided in 7.2.6 and 7.3.4.

For “limited quantities” and “excepted quantities” see chapters 3.4 and 3.5.

**7.2.3.3** Where the provisions of this Code indicate a single secondary hazard (one subsidiary hazard label), the segregation provisions applicable to that hazard shall take precedence where they are more stringent than those of the primary hazard. The segregation provisions corresponding to a subsidiary hazard of class 1 are those for class 1 division 1.3.

**7.2.3.4** The segregation provisions for substances, materials or articles having more than two hazards (two or more subsidiary hazard labels) are given in column 16b of the Dangerous Goods List.

For example:

In the Dangerous Goods List entry for BROMINE CHLORIDE, class 2.3, UN 2901, subsidiary hazards 5.1 and 8, the following particular segregation is specified:

“SG6 (segregation as for class 5.1), and SG19 (stow “separated from” class 7).”

## 7.2.4 Segregation table

The general provisions for segregation between the various classes of dangerous goods are shown in the “segregation table” given below.

Since the properties of substances, materials or articles within each class may vary greatly, the Dangerous Goods List shall always be consulted for particular provisions for segregation as, in the case of conflicting provisions, these take precedence over the general provisions.

Segregation shall also take account of a single subsidiary hazard label.

CLASS	1.1 1.2 1.5	1.3 1.6	1.4	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
Explosives 1.1, 1.2, 1.5	*	*	*	4	2	2	4	4	4	4	4	4	2	4	2	4	X
Explosives 1.3, 1.6	*	*	*	4	2	2	4	3	3	4	4	4	2	4	2	2	X
Explosives 1.4	*	*	*	2	1	1	2	2	2	2	2	2	X	4	2	2	X
Flammable gases 2.1	4	4	2	X	X	X	2	1	2	2	2	2	X	4	2	1	X
Non-toxic, non-flammable gases 2.2	2	2	1	X	X	X	1	X	1	X	X	1	X	2	1	X	X
Toxic gases 2.3	2	2	1	X	X	X	2	X	2	X	X	2	X	2	1	X	X
Flammable liquids 3	4	4	2	2	1	2	X	X	2	2	2	2	X	3	2	X	X
Flammable solids (including self-reactive substances and solid desensitized explosives) 4.1	4	3	2	1	X	X	X	X	1	X	1	2	X	3	2	1	X
Substances liable to spontaneous combustion 4.2	4	3	2	2	1	2	2	1	X	1	2	2	1	3	2	1	X
Substances which, in contact with water, emit flammable gases 4.3	4	4	2	2	X	X	2	X	1	X	2	2	X	2	2	1	X
Oxidizing substances (agents) 5.1	4	4	2	2	X	X	2	1	2	2	X	2	1	3	1	2	X
Organic peroxides 5.2	4	4	2	2	1	2	2	2	2	2	2	X	1	3	2	2	X
Toxic substances 6.1	2	2	X	X	X	X	X	X	1	X	1	1	X	1	X	X	X
Infectious substances 6.2	4	4	4	4	2	2	3	3	3	2	3	3	1	X	3	3	X
Radioactive material 7	2	2	2	2	1	1	2	2	2	2	1	2	X	3	X	2	X
Corrosive substances 8	4	2	2	1	X	X	X	1	1	1	2	2	X	3	2	X	X
Miscellaneous dangerous substances and articles 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

The numbers and symbols in the table have the following meanings:

- 1 – “away from”
- 2 – “separated from”
- 3 – “separated by a complete compartment or hold from”
- 4 – “separated longitudinally by an intervening complete compartment or hold from”
- X – the Dangerous Goods List has to be consulted to verify whether there are specific segregation provisions
- \* – see 7.2.7.1 of this chapter for the segregation provisions between class 1 substances or articles

**Part 7 – Provisions concerning transport operations****7.2.5 Segregation groups**

**7.2.5.1** For the purpose of segregation, dangerous goods having certain similar chemical properties have been grouped together in segregation groups as listed in 7.2.5.2. The entries allocated to these segregation groups are listed in 3.1.4.4 and are identified by a segregation group code in column 16b of the Dangerous Goods List.

**7.2.5.2** The segregation group codes given in column 16b of the Dangerous Goods List are as specified below:

Segregation Group Code	Segregation Group	Description
SGG1	1	acids
SGG1a	1, entries marked *	* identifies strong acids
SGG2	2	ammonium compounds
SGG3	3	bromates
SGG4	4	chlorates
SGG5	5	chlorites
SGG6	6	cyanides
SGG7	7	heavy metals and their salts (including their organometallic compounds)
SGG8	8	hypochlorites
SGG9	9	lead and its compounds
SGG10	10	liquid halogenated hydrocarbons
SGG11	11	mercury and mercury compounds
SGG12	12	nitrites and their mixtures
SGG13	13	perchlorates
SGG14	14	permanganates
SGG15	15	powdered metals
SGG16	16	peroxides
SGG17	17	azides
SGG18	18	alkalis

**7.2.5.3** It is recognized that not all substances, mixtures, solutions or preparations falling within a segregation group are listed in the IMDG Code by name. These are shipped under N.O.S. entries. Although these N.O.S. entries are not themselves listed in the segregation groups (see 3.1.4.4), the consignor shall decide whether inclusion under the segregation group is appropriate and, if so, shall mention that fact in the transport document (see 5.4.1.5.11).

**7.2.5.4** The segregation groups in this Code do not cover substances which fall outside the classification criteria of this Code. It is recognized that some non-hazardous substances have similar chemical properties as substances listed in the segregation groups. A consignor or the person responsible for packing the goods into a cargo transport unit who does have knowledge of the chemical properties of such non-dangerous goods may decide to implement the segregation requirements of a related segregation group on a voluntary basis.

**7.2.6 Special segregation provisions and exemptions**

**7.2.6.1** Notwithstanding 7.2.3.3 and 7.2.3.4, substances of the same class may be stowed together without regard to segregation required by secondary hazards (subsidiary hazard label(s)), provided that the substances do not react dangerously with each other and cause:

- .1 combustion and/or evolution of considerable heat;
- .2 evolution of flammable, toxic or asphyxiant gases;
- .3 the formation of corrosive substances; or
- .4 the formation of unstable substances.



**7.2.6.2** Where the Dangerous Goods List specifies that “segregation as for class ...” applies, the segregation provisions applicable to that class in 7.2.4 shall be applied. However, for the purposes of interpreting 7.2.6.1, which permits substances of the same class to be stowed together provided they do not react dangerously with each other, the segregation provisions of the class as represented by the primary hazard class in the Dangerous Goods List shall be applied.

For example:

UN 2965 – BORON TRIFLUORIDE DIMETHYL ETHERATE, class 4.3

The Dangerous Goods List entry specifies “SG5 (“segregation as for class 3)”, “SG8 (stow “away from” class 4.1)” and “SG13 (stow “away from class 8)””.

For the purposes of establishing the segregation provisions applicable in 7.2.4, the class 3 column shall be consulted.

This substance may be stowed together with other class 4.3 substances where they do not react dangerously with each other, see 7.2.6.1.

**7.2.6.3** No segregation needs to be applied:

- .1 between dangerous goods of different classes which comprise the same substance but vary only in their water content, such as sodium sulphide in classes 4.2 and 8 or for class 7 if the difference is due to quantity only;
- .2 between dangerous goods which belong to a group of substances of different classes but for which scientific evidence exists that they do not react dangerously when in contact with each other. Substances within the same table 7.2.6.3.1, 7.2.6.3.2 or 7.2.6.3.3 are compatible with one another; and
- .3 to substances within the table 7.2.6.3.4, except that due regard shall continue to be taken of the dangerous reactions specified in the provisions of 7.2.6.1.1 to 7.2.6.1.4.

**Table 7.2.6.3.1**

UN	Proper shipping name	Class	Subsidiary hazard(s)	Packing group
2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)	5.1	8	II
2984	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)	5.1		III
3105	ORGANIC PEROXIDE TYPE D, LIQUID (peroxyacetic acid, type D, stabilized)	5.2	8	
3107	ORGANIC PEROXIDE TYPE E, LIQUID (peroxyacetic acid, type E, stabilized)	5.2	8	
3109	ORGANIC PEROXIDE TYPE F, LIQUID (peroxyacetic acid, type F, stabilized)	5.2	8	
3149	HYDROGEN PEROXIDE AND PEROXYACETIC ACID, MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED	5.1	8	II

**Table 7.2.6.3.2**

UN	Proper shipping name	Class	Subsidiary hazard(s)	Packing group
1295	TRICHLOROSILANE	4.3	3/8	I
1818	SILICON TETRACHLORIDE	8	–	II
2189	DICHLOROSILANE	2.3	2.1/8	–



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Table 7.2.6.3.3

UN	Proper shipping name	Class	Subsidiary hazard(s)	Packing group
3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	4.2		I
3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	4.2		I
3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE	4.2	4.3	I
3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE	4.2	4.3	I
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3		I, II, III
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, FLAMMABLE	4.3	4.1	I, II, III
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER REACTIVE, SELF-HEATING	4.3	4.2	I, II, III
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE	4.3		I, II, III
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE	4.3	3	I, II, III
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2		II, III

Table 7.2.6.3.4

UN*	Proper shipping name	Class	Subsidiary hazard(s)	Packing group
1325	FLAMMABLE SOLID, ORGANIC, N.O.S. with a technical name as listed in 2.5.3.2.4 under "exempt"	4.1	None	II, III
3101	ORGANIC PEROXIDE TYPE B, LIQUID	5.2	1 and/or 8	–
3102	ORGANIC PEROXIDE TYPE B, SOLID	5.2	1 and/or 8	–
3103	ORGANIC PEROXIDE TYPE C, LIQUID	5.2	None or 8	–
3104	ORGANIC PEROXIDE TYPE C, SOLID	5.2	None or 8	–
3105	ORGANIC PEROXIDE TYPE D, LIQUID	5.2	None or 8	–
3106	ORGANIC PEROXIDE TYPE D, SOLID	5.2	None or 8	–
3107	ORGANIC PEROXIDE TYPE E, LIQUID	5.2	None or 8	–
3108	ORGANIC PEROXIDE TYPE E, SOLID	5.2	None or 8	–
3109	ORGANIC PEROXIDE TYPE F, LIQUID	5.2	None or 8	–
3110	ORGANIC PEROXIDE TYPE F, SOLID	5.2	None or 8	–
3111	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED	5.2	1 and/or 8	–
3112	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	5.2	1 and/or 8	–
3113	ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3114	ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3115	ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3116	ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3117	ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED	5.2	None or 8	–

UN*	Proper shipping name	Class	Subsidiary hazard(s)	Packing group
3118	ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3119	ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED	5.2	None or 8	–
3120	ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED	5.2	None or 8	–

\* Except for substances with the technical name PEROXYACETIC ACID

△ 7.2.6.4 Notwithstanding table 7.2.6.3.4, due regard shall continue to be taken of the dangerous reactions specified in the provisions of 7.2.6.1.1 to 7.2.6.1.4.

7.2.6.5 Notwithstanding the provisions of 7.2.5, substances of class 8, packing group II or III, that would otherwise be required to be segregated from one another due to the provisions pertaining to segregation groups as identified by an entry in column 16b of the Dangerous Goods List indicating “away from” or “separated from” “acids” or “away from” or “separated from” “alkalis”, may be transported in the same cargo transport unit, whether in the same packaging or not, provided:

- .1 the substances comply with the provisions of 7.2.6.1;
- .2 the package does not contain more than 30 L for liquids or 30 kg for solids;
- .3 the transport document includes the statement required by 5.4.1.5.11.3; and
- .4 a copy of the test report that verifies that the substances do not react dangerously with each other shall be provided if requested by the competent authority.

## 7.2.7 Segregation of goods of class 1

### 7.2.7.1 Segregation between goods of class 1

7.2.7.1.1 Goods of class 1 may be stowed within the same compartment or hold, or closed cargo transport unit as indicated in 7.2.7.1.4. In other cases, they shall be stowed in separate compartments or holds, or closed cargo transport units.

7.2.7.1.2 When goods requiring different stowage arrangements are permitted by 7.2.7.1.4 to be transported in the same compartment or hold, or closed cargo transport unit, the appropriate stowage arrangement shall conform to the most stringent provisions for the entire load.

7.2.7.1.3 Where a mixed load of different divisions is transported within the same compartment or hold, or closed cargo transport unit, the entire load shall be treated as if belonging to the hazard division in the order 1.1 (most dangerous), 1.5, 1.2, 1.3, 1.6 and 1.4 (least dangerous) and the stowage arrangement shall conform to the most stringent provisions for the entire load.

#### 7.2.7.1.4 Permitted mixed stowage for goods of class 1

Compatibility group	A	B	C	D	E	F	G	H	J	K	L	N	S
A	X												
B		X											X
C			X	X <sup>6</sup>	X <sup>6</sup>		X <sup>1</sup>					X <sup>4</sup>	X
D			X <sup>6</sup>	X	X <sup>6</sup>		X <sup>1</sup>					X <sup>4</sup>	X
E			X <sup>6</sup>	X <sup>6</sup>	X		X <sup>1</sup>					X <sup>4</sup>	X
F						X							X
G			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X						X
H								X					X
J									X				X
K										X			X
L											X <sup>2</sup>		
N			X <sup>4</sup>	X <sup>4</sup>	X <sup>4</sup>							X <sup>3</sup>	X <sup>5</sup>
S		X	X	X	X	X	X	X	X	X		X <sup>5</sup>	X

“X” indicates that goods of the corresponding compatibility groups may be stowed in the same compartment, hold, or closed cargo transport unit.

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<sup>1</sup> Explosive articles in compatibility group G (other than fireworks and those requiring special stowage) may be stowed with explosive articles of compatibility groups C, D and E provided no explosive substances are transported in the same compartment or hold, or closed cargo transport unit.

<sup>2</sup> A consignment of one type in compatibility group L shall only be stowed with a consignment of the same type within compatibility group L.

<sup>3</sup> Different types of articles of Division 1.6, compatibility group N, may only be transported together when it is proven that there is no additional risk of sympathetic detonation between the articles. Otherwise they shall be treated as division 1.1.

<sup>4</sup> When articles of compatibility group N are transported with articles or substances of compatibility groups C, D or E, the goods of compatibility group N shall be treated as compatibility group D.

<sup>5</sup> When articles of compatibility group N are transported together with articles or substances of compatibility group S, the entire load shall be treated as compatibility group N.

<sup>6</sup> Any combination of articles in compatibility groups C, D and E shall be treated as compatibility group E. Any combination of substances in compatibility groups C and D shall be treated as the most appropriate compatibility group shown in 2.1.2.3, taking into account the predominant characteristics of the combined load. This overall classification code shall be displayed on any label or placard placed on a unit load or closed cargo transport unit as prescribed in 5.2.2.2.2.

**7.2.7.1.5** Closed cargo transport units carrying different goods of class 1 do not require segregation from each other provided 7.2.7.1.4 authorizes the goods to be transported together. Where this is not permitted, closed cargo transport unit shall be “separated from” one another.

**7.2.7.2 Segregation from goods of other classes**

**7.2.7.2.1** Notwithstanding the segregation provisions of this chapter, AMMONIUM NITRATE (UN 1942), AMMONIUM NITRATE BASED FERTILIZER (UN 2067), alkali metal nitrates (e.g. UN 1486) and alkaline earth metal nitrates (e.g. UN 1454) may be stowed together with blasting explosives (except EXPLOSIVE, BLASTING, TYPE C, UN 0083) provided the aggregate is treated as blasting explosives under class 1.

**Note:** Alkali metal nitrates include caesium nitrate (UN 1451), lithium nitrate (UN 2722), potassium nitrate (UN 1486), rubidium nitrate (UN 1477) and sodium nitrate (UN 1498). Alkaline earth metal nitrates include barium nitrate (UN 1446), beryllium nitrate (UN 2464), calcium nitrate (UN 1454), magnesium nitrate (UN 1474) and strontium nitrate (UN 1507).

**7.2.8 Segregation codes**

The segregation codes given in column 16b of the Dangerous Goods List are as specified below:

Segregation code	Description
SG1	For packages carrying a subsidiary hazard label of class 1, segregation as for class 1, division 1.3. However, in relation to goods of class 1, segregation as for the primary hazard.
SG2	Segregation as for class 1.2G.
SG3	Segregation as for class 1.3G.
SG4	Segregation as for class 2.1.
SG5	Segregation as for class 3.
SG6	Segregation as for class 5.1.
SG7	Stow “away from” class 3.
SG8	Stow “away from” class 4.1.
SG9	Stow “away from” class 4.3.
SG10	Stow “away from” class 5.1.
SG11	Stow “away from” class 6.2.
SG12	Stow “away from” class 7.
SG13	Stow “away from” class 8.
SG14	Stow “separated from” class 1 except for division 1.4S.
SG15	Stow “separated from” class 3.
SG16	Stow “separated from” class 4.1.
SG17	Stow “separated from” class 5.1.
SG18	Stow “separated from” class 6.2.
SG19	Stow “separated from” class 7.
SG20	Stow “away from” SGG1 – acids.
SG21	Stow “away from” SGG18 – alkalis.

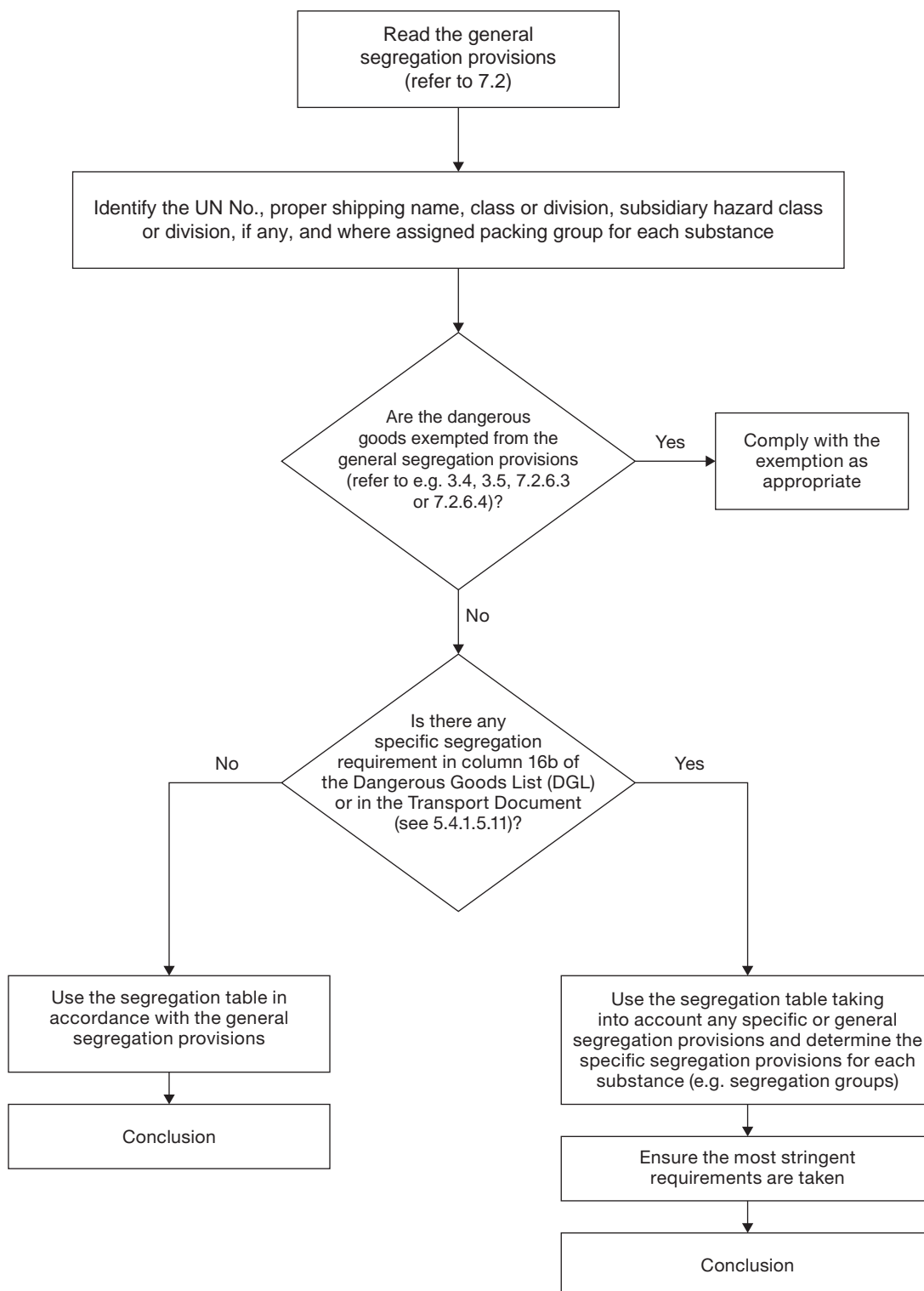
Segregation code	Description
SG22	Stow “away from” ammonium salts.
SG23	Stow “away from” animal or vegetable oils.
SG24	Stow “away from” SGG17 – azides.
SG25	Stow “separated from” goods of classes 2.1 and 3.
SG26	In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.
△ SG27	Stow “separated from” explosives containing chlorates or perchlorates.
△ SG28	Stow “separated from” SGG2 – ammonium compounds and explosives containing ammonium compounds or salts.
SG29	Segregation from foodstuffs as in 7.3.4.2.2, 7.6.3.1.2 or 7.7.3.7.
SG30	Stow “away from” SGG7 – heavy metals and their salts.
SG31	Stow “away from” SGG9 – lead and its compounds.
SG32	Stow “away from” SGG10 – liquid halogenated hydrocarbons.
SG33	Stow “away from” SGG15 – powdered metals.
△ SG34	When containing ammonium compounds, “separated from” SGG4 – chlorates or SGG13 – perchlorates and explosives containing chlorates or perchlorates.
SG35	Stow “separated from” SGG1 – acids.
SG36	Stow “separated from” SGG18 – alkalis.
SG37	Stow “separated from” ammonia.
SG38	Stow “separated from” SGG2 – ammonium compounds.
SG39	Stow “separated from” SGG2 – ammonium compounds other than AMMONIUM PERSULPHATE (UN 1444).
SG40	Stow “separated from” SGG2 – ammonium compounds other than mixtures of ammonium persulphates and/or potassium persulphates and/or sodium persulphates.
SG41	Stow “separated from” animal or vegetable oil.
SG42	Stow “separated from” SGG3 – bromates.
SG43	Stow “separated from” bromine.
SG44	Stow “separated from” CARBON TETRACHLORIDE (UN 1846).
SG45	Stow “separated from” SGG4 – chlorates.
SG46	Stow “separated from” chlorine.
SG47	Stow “separated from” SGG5 – chlorites.
△ SG48	Stow “separated from” combustible material (particularly liquids).
SG49	Stow “separated from” SGG6 – cyanides.
SG50	Segregation from foodstuffs as in 7.3.4.2.1, 7.6.3.1.2 or 7.7.3.6.
SG51	Stow “separated from” SGG8 – hypochlorites.
SG52	Stow “separated from” iron oxide.
△ SG53	Shall not be stowed together with combustible material in the same cargo transport unit.
SG54	Stow “separated from” SGG11 – mercury and mercury compounds.
SG55	Stow “separated from” mercury salts.
SG56	Stow “separated from” SGG12 – nitrites.
SG57	Stow “separated from” odour-absorbing cargoes.
SG58	Stow “separated from” SGG13 – perchlorates.
SG59	Stow “separated from” SGG14 – permanganates.
SG60	Stow “separated from” SGG16 – peroxides.
SG61	Stow “separated from” SGG15 – powdered metals.
SG62	Stow “separated from” sulphur.

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Segregation code	Description
SG63	Stow “separated longitudinally by an intervening complete compartment or hold from” class 1.
SG64	[Reserved]
SG65	Stow “separated by a complete compartment or hold from” class 1 except for division 1.4.
SG66	[Reserved]
SG67	Stow “separated from” division 1.4 and “separated longitudinally by an intervening complete compartment or hold from” divisions 1.1, 1.2, 1.3, 1.5 and 1.6 except from explosives of compatibility group J.
SG68	If flashpoint 60°C c.c. or below, segregation as for class 3 but “away from” class 4.1.
SG69	For AEROSOLS with a maximum capacity of 1 L: segregation as for class 9. Stow “separated from” class 1 except for division 1.4. For AEROSOLS with a capacity above 1 L: segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: segregation as for the appropriate subdivision of class 2.
SG70	For arsenic sulphides, “separated from” SGG1 – acids.
SG71	Within the appliance, to the extent that the dangerous goods are integral parts of the complete life-saving appliance, there is no need to apply the provisions on segregation of substances in chapter 7.2.
SG72	See tables in 7.2.6.3.
SG73	[Reserved]
SG74	Segregation as for 1.4G.
SG75	Stow “separated from” SGG1a – strong acids.
SG76	Segregation as for class 7.
SG77	Segregation as for class 8. However, in relation to class 7, no segregation needs to be applied.
SG78	Stow “separated longitudinally by an intervening complete compartment or hold from” division 1.1, 1.2, and 1.5.

**Annex**  
**Segregation flow chart**

The use of this chart is not mandatory and is provided for information purposes only.



**Part 7 – Provisions concerning transport operations****Examples**

The following examples only illustrate the process of segregation. Subsequent additional provisions of this Code may apply (e.g. 7.3.4).

- 1 Segregation of 300 kg of celluloid, scrap (UN 2002) in one drum and 200 L of epibromohydrin (UN 2558) in one drum.
  - .1 According to the Dangerous Goods List, UN 2002 is class 4.2, PG III, and UN 2558 is class 6.1, PG I and has a subsidiary hazard of class 3.
  - .2 Neither are exempted by 3.4, 3.5, 7.2.6.3 or 7.2.6.4.
  - .3 There are no specific segregation requirements for these substances in column 16b of the Dangerous Goods List.
  - .4 According to the segregation table given in 7.2.4 for classes 4.2 and 6.1, the intersecting box shows number 1, whereas for classes 4.2 and 3, the intersecting box shows a number 2. The value 2 is the more stringent, therefore the substances are required to be “separated from” one another.
- 2 Segregation of 50 kg of potassium perchlorate (UN 1489) in one drum and 50 kg of nickel cyanide (UN 1653) in one drum.
  - .1 According to the Dangerous Goods List, UN 1489 is class 5.1, PG II and UN 1653 is class 6.1, PG II.
  - .2 Neither are exempted by 3.4, 3.5, 7.2.6.3 or 7.2.6.4.
  - .3 For UN 1489, column 16b of the Dangerous Goods List states “SG38” (“separated from” ammonium compounds other than AMMONIUM PERSULPHATE (UN 1444)) and “SG49” (“separated from” cyanides).
  - .4 For UN 1653, column 16b of the Dangerous Goods List states “SG35” (“separated from” acids).
  - .5 According to the segregation table given in 7.2.4 for classes 5.1 and 6.1, the intersecting box shows an “1”.
  - .6 According to the segregation groups in section 3.1.4, UN 1653 is listed in group 6 (cyanides).
  - .7 Therefore, the substances are required to be “separated from” one another.
- 3 Segregation of 10 kg of acetone (UN 1090) in one box and 20 kg of ethyldichlorosilane (UN 1183) in another box.
  - .1 According to the Dangerous Goods List, UN 1090 is class 3, PG II.
  - .2 According to the Dangerous Goods List, UN 1183 is class 4.3, PG I and has subsidiary hazards of classes 3 and 8.
  - .3 Neither are exempted by 3.4, 3.5, 7.2.6.3 or 7.2.6.4.
  - .4 UN 1090 has no specific segregation requirements in column 16b.
  - .5 For UN 1183, column 16b of the Dangerous Goods List states “SG5” (segregation as for class 3), “SG8” (“away from” class 4.1), “SG13” (“away from” class 8), “SG25” (“separated from” goods of classes 2.1 and 3) and “SG26” (in addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained).
  - .6 According to the segregation table given in 7.2.4, the intersecting box shows an “X” for classes 3 and 3, but as UN 1183 is required to be “separated from” class 3, the substances are required to be “separated from” one another. In addition, when these substances are stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, and when they are stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.
- 4 Segregation of 10 kg of adhesives (UN 1133, PG III) in limited quantities and 40 kg of beryllium nitrate (UN 2464) in the same freight container.
  - .1 According to the Dangerous Goods List, UN 1133 is class 3, PG III.
  - .2 According to the Dangerous Goods List, UN 2464 is class 5.1, PG II and has a subsidiary hazard of class 6.1.
  - .3 According to section 3.4, UN 1133 in limited quantities is exempted from the segregation provisions of part 7.
  - .4 Therefore, no segregation requirements shall apply.



## Chapter 7.3

### *Consigning operations concerning the packing and use of cargo transport units (CTUs) and related provisions*

#### 7.3.1 Introduction

This chapter contains the provisions appropriate to those responsible for the consignment operations in the dangerous goods transport supply chain, including provisions relating to packing of dangerous goods into cargo transport units.

#### 7.3.2 General provisions for cargo transport units

7.3.2.1 Packages containing dangerous goods shall only be loaded in cargo transport units that are strong enough to withstand the shocks and loadings normally encountered during transport, having regard to the conditions to be expected during the anticipated journey. The cargo transport unit shall be constructed in such a way as to prevent the loss of contents. Where appropriate, the cargo transport unit shall be fitted with devices to facilitate securing and handling of the dangerous goods. The cargo transport units shall be adequately maintained.

△ 7.3.2.2 Unless otherwise specified, the applicable provisions of the *International Convention for Safe Containers, 1972* (CSC Convention), as amended, shall be followed for the use of any cargo transport unit which meets the definition of a “container” within the terms of that Convention.

7.3.2.3 The *International Convention for Safe Containers, 1972* (CSC Convention) does not apply to offshore containers that are handled in open seas. The design and testing of offshore containers shall take into account the dynamic lifting and impact forces that may occur when a container is handled in open seas in adverse weather and sea conditions. The requirements for such containers shall be determined by the approving competent authority. Such provisions should be based on the *Guidelines for the approval of offshore containers handled in open seas* (MSC/Circ.860). Such containers shall be clearly marked with the words “OFFSHORE CONTAINER” on the safety approval plate.

#### 7.3.3 Packing of cargo transport units\*

7.3.3.1 Prior to the use of a cargo transport unit it shall be checked to ensure that it is apparently fit for its intended purpose.†

7.3.3.2 The interior and exterior of a cargo transport unit shall be inspected prior to loading to ensure that there is no damage that could affect its integrity or that of the packages to be loaded in it.

7.3.3.3 Packages shall be examined and any found to be damaged, leaking or sifting shall not be packed into a cargo transport unit. Care shall be taken to see that excessive water, snow, ice or foreign matter adhering to packages is removed before packing into a cargo transport unit. Whenever the handling provision “keep as dry as reasonably practicable” (H1) is assigned in column 16a of the Dangerous Goods List, the cargo transport unit including any contained goods, securing or packing materials shall be kept as dry as reasonably practicable.

7.3.3.4 Drums containing dangerous goods shall always be stowed in an upright position unless otherwise authorized by the competent authority.

7.3.3.5 Cargo transport units shall be loaded in accordance with 7.3.4, so that incompatible dangerous or other goods are segregated. Specific loading instructions such as orientation arrows, not to be double stacked, keep dry or temperature control requirements shall be met. Liquid dangerous goods shall be loaded below dry dangerous goods whenever possible.

\* See CTU Code.

† For safety approval plates and maintenance and examination of containers see the *International Convention for Safe Containers, 1972* (CSC Convention), as amended, annex I, regulations 1 and 2 (see 1.1.2.3).



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- 7.3.3.6** Packages containing dangerous goods and unpackaged dangerous articles shall be secured by suitable means capable of restraining the goods (such as fastening straps, sliding slatboards, adjustable brackets) in the cargo transport unit in a manner that will prevent any movement during transport which would change the orientation of the packages or cause them to be damaged. When dangerous goods are transported with other goods (e.g. heavy machinery or crates), all goods shall be securely fixed or packed in the cargo transport units so as to prevent the release of dangerous goods. Movement of packages may also be prevented by filling any voids by the use of dunnage or by blocking and bracing. Where restraints such as banding or straps are used, these shall not be over-tightened to cause damage or deformation of the package or the securing points (such as D-rings) within the cargo transport unit. The packages shall be packed in such a way that there will be a minimum likelihood of damage to fittings during transport. Such fittings on packages shall be adequately protected. Where restraints such as banding or straps with integral container fittings are used, care should be taken to ensure that the Maximum Securing Load (MSL) of the fittings is not exceeded.
- 7.3.3.7** Packages shall not be stacked unless designed for that purpose. Where packages of different stacking designs are to be loaded together, consideration shall be given to their compatibility for stacking with each other. Where necessary, stacked packages shall be prevented from damaging the package below by the use of load bearing devices.
- 7.3.3.8** Cargo shall be entirely contained within the cargo transport unit without overhang or projections. Oversized machinery (such as tractors and vehicles) may overhang or project outside of the cargo transport unit provided that the dangerous goods integral to the machinery cannot leak or spill outside of the cargo transport unit.
- 7.3.3.9** During loading and unloading, packages containing dangerous goods shall be protected from being damaged. Particular attention shall be paid to the handling of packages during their preparation for transport, the type of cargo transport unit to be used for their carriage and to the method of loading or unloading, so that accidental damage is not caused through dragging or mishandling. Packages that appear to be leaking or damaged so that the contents may escape shall not be accepted for transport. If a package is found to be damaged so that the contents leak, the damaged package shall not be transported but moved to a safe place in accordance with instructions given by a competent authority or a designated responsible person who is familiar with the dangerous goods, the risks involved and the measures that should be taken in an emergency.
- Note 1:** Additional operational requirements for the transport of packagings and IBCs are provided in the special packing provisions for packagings and IBCs (see chapter 4.1).
- 7.3.3.10** When a dangerous goods consignment forms only part of the load of a cargo transport unit, it should, whenever possible, be packed adjacent to the doors with marks and labels visible, so as to be accessible in the event of an emergency or to facilitate inspection.
- 7.3.3.11** If the doors of a cargo transport unit are locked, the means of locking shall be such that, in cases of emergency, the doors can be opened without delay.
- 7.3.3.12** When venting is required, venting devices shall be kept clear and operable.
- 7.3.3.13** Cargo transport units containing dangerous goods shall be marked and placarded according to chapter 5.3. Irrelevant marks, labels, placards, orange panels, signs and marine pollutant marks shall be removed, masked or otherwise obliterated before packing a cargo transport unit.
- 7.3.3.14** Cargo transport units shall be packed so that the cargo is uniformly distributed consistent with the CTU Code.
- 7.3.3.15** If goods of class 1 are packed, the cargo transport unit shall comply with the definition in 7.1.2 for closed cargo transport unit for class 1.
- 7.3.3.16** If goods of class 7 are packed, the transport index and, if applicable, the criticality safety index, shall be limited according to 7.1.4.5.3.
- 7.3.3.17** Those responsible for the packing of dangerous goods into a cargo transport unit shall provide a “container/ vehicle packing certificate” (see 5.4.2). This document is not required for tanks.
- 7.3.3.18** Flexible bulk containers are not allowed to be transported in cargo transport units (see 4.3.4).

**7.3.4 Segregation provisions within cargo transport units**

- 7.3.4.1** Dangerous goods which have to be segregated from each other according to the provisions in chapter 7.2 shall not be transported in the same cargo transport unit with the exception of dangerous goods which shall be segregated “away from” each other which may be transported in the same cargo transport unit with the approval of the competent authority. In such cases an equivalent standard of safety shall be maintained.

**7.3.4.2 Segregation in relation to foodstuffs**

**7.3.4.2.1** Dangerous goods having a primary or subsidiary hazard of classes 2.3, 6.1, 6.2, 7 (with the exception of UN 2908, 2909, 2910 and 2911), 8 and dangerous goods having a reference to 7.3.4.2.1 in column 16b of the Dangerous Goods List shall not be transported together with foodstuffs (see 1.2.1) in the same cargo transport unit.

**7.3.4.2.2** Notwithstanding the provisions in 7.3.4.2.1, the following dangerous goods may be transported with foodstuffs provided that they are not loaded within 3 m from foodstuffs:

- .1 dangerous goods of packing group III of classes 6.1 and 8;
- .2 dangerous goods of packing group II of class 8; and
- .3 any other dangerous goods of packing group III with a subsidiary hazard of classes 6.1 or 8; and
- .4 dangerous goods having a reference to 7.3.4.2.2 in column 16b of the Dangerous Goods List.

**7.3.5 Tracking and monitoring equipment**

When security devices, beacons or other tracking or monitoring equipment are used, they shall be securely installed to the cargo transport unit and shall be of a certified safe type\* for the dangerous goods that will be carried within the cargo transport unit.

**7.3.6 Opening and unloading cargo transport units**

**7.3.6.1** Cargo transport units shall be approached with caution. Before opening the doors, the nature of the contents and the possibility that leakages may have caused an unsafe condition, concentration of toxic or flammable vapours, or an oxygen-enriched or oxygen-depleted atmosphere, shall be considered.

**7.3.6.2** After a cargo transport unit carrying dangerous goods has been unpacked or unloaded, precautions shall be taken to ensure that there is no contamination likely to make the cargo transport unit dangerous.

**7.3.6.3** After unpacking or unloading corrosive substances, particular attention shall be paid to cleaning, as residues may be highly corrosive to the metal structures.

**7.3.6.4** When the cargo transport unit offers no further hazard, the dangerous goods placards and other marks related to dangerous goods shall be removed, masked or otherwise obliterated.

**7.3.7 Cargo transport units under temperature control****7.3.7.1 Preamble**

**7.3.7.1.1** If the temperature of certain substances (such as organic peroxides and polymerizing or self-reactive substances) exceeds a value which is typical of the substance as packaged for transport, a self-accelerating decomposition or polymerization possibly of explosive violence, may result. To prevent such decomposition or polymerization, it is necessary to control the temperature of such substances during transport. Other substances not requiring temperature control for safety reasons may be transported under controlled temperature conditions for commercial reasons.

**7.3.7.1.2** The provisions for the temperature control of certain specified substances are based on the assumption that the temperature in the immediate surroundings of the cargo does not exceed 55°C during transport and attains this value for a relatively short time only during each period of 24 h.

\* Refer to the Recommendations published by the International Electrotechnical Commission, in particular, to publication IEC 60079.

**Part 7 – Provisions concerning transport operations****7.3.7.2 General provisions**

**7.3.7.2.1** Where a number of packages containing self-reactive substances, organic peroxides and polymerizing substances are loaded in a closed cargo transport unit, the total quantity of substance, the type and number of packages and the stacking arrangement shall not create an explosion hazard.

**7.3.7.2.2** These provisions apply to certain self-reactive substances when required by 2.4.2.3.4, and certain organic peroxides when required by 2.5.3.4.1 and certain polymerizing substances when required by 2.4.2.5.2 or special provision 386 of chapter 3.3 which may only be transported under conditions where the temperature is controlled.

**7.3.7.2.3** These provisions also apply to the transport of substances for which:

- .1 the proper shipping name as indicated in column 2 of the Dangerous Goods List of chapter 3.2 or according to 3.1.2.6 contains the word “STABILIZED”; and
- .2 the self-accelerating decomposition temperature (SADT) or the self-accelerating polymerization temperature (SAPT)\* determined for the substance (with or without chemical stabilization) as offered for transport is:
  - .1 50°C or less for single packagings and IBCs; or
  - .2 45°C or less for portable tanks.

When chemical inhibition is not used to stabilize a reactive substance which may generate dangerous amounts of heat and gas, or vapour, under normal transport conditions, these substances need to be transported under temperature control. These provisions do not apply to substances which are stabilized by the addition of chemical inhibitors such that the SADT or the SAPT is greater than that prescribed in paragraphs 7.3.7.2.3.2.1 or 7.3.7.2.3.2.2.

**7.3.7.2.4** In addition, if a self-reactive substance or organic peroxide or a substance the proper shipping name of which contains the word “STABILIZED” and which is not normally required to be transported under temperature control is transported under conditions where the temperature may exceed 55°C, it may require temperature control.

**7.3.7.2.5** The “control temperature” is the maximum temperature at which the substance can be safely transported. In the event of loss of temperature control, it may be necessary to implement emergency procedures. The “emergency temperature” is the temperature at which such procedures shall be implemented.

**7.3.7.2.6 Derivation of control and emergency temperatures**

Type of receptacle	SADT <sup>a</sup> /SAPT <sup>a</sup>	Control temperature	Emergency temperature
Single packagings and IBC	20°C or less over 20°C to 35°C over 35°C	20°C below SADT/SAPT 15°C below SADT/SAPT 10°C below SADT/SAPT	10°C below SADT/SAPT 10°C below SADT/SAPT 5°C below SADT/SAPT
Portable tanks	≤ 45°C	10°C below SADT/SAPT	5°C below SADT/SAPT

<sup>a</sup> i.e. the SADT/SAPT of the substance as packed for transport.

**7.3.7.2.7** The control and emergency temperatures are derived using the table in 7.3.7.2.6 from the self-accelerating decomposition temperature (SADT) or from the self-accelerating polymerization temperature (SAPT) which are defined as the lowest temperatures at which self-accelerating decomposition or self-accelerating polymerization may occur with a substance in the packaging, IBC or portable tank as used in transport. An SADT or SAPT shall be determined in order to decide if a substance shall be subjected to temperature control during transport. Provisions for the determination of the SADT and SAPT are given in 2.4.2.3.4, 2.5.3.4.2 and 2.4.2.5.2 for self-reactive substances, organic peroxides and polymerizing substances and mixtures, respectively.

**7.3.7.2.8** Control and emergency temperatures, where appropriate, are provided for currently assigned self-reactive substances in 2.4.2.3.2.3 and for currently assigned organic peroxide formulations in 2.5.3.2.4.

**7.3.7.2.9** The actual transport temperature may be lower than the control temperature but shall be selected so as to avoid dangerous separation of phases.

**7.3.7.3 Transport under temperature control**

**7.3.7.3.1** Prior to the use of cargo transport unit, the refrigeration system shall be subjected to a thorough inspection and a test to ensure that all parts are functioning properly.

\* The SAPT shall be determined in accordance with the test procedures established for the SADT for self-reactive substances in accordance with part II, section 28 of the *Manual of Tests and Criteria*.

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- 7.3.7.3.2** Refrigerant gas shall only be replaced in accordance with the manufacturer's operating instructions for the refrigeration system. Prior to filling replacement refrigerant gas, a certificate of analysis from the supplier shall be obtained and checked to confirm that the gas meets refrigeration system specifications. In addition, if concerns about the integrity of the supplier and/or the refrigerant gas supply chain give rise to suspicion of contamination of the gas, the replacement refrigerant gas shall be checked for possible contamination prior to use. If the refrigerant gas is found to be contaminated, it shall not be used, the cylinder shall be plainly marked "CONTAMINATED", the cylinder shall be sealed and sent for recycling or disposal, and notification shall be given to the refrigerant gas supplier and authorized distributor and competent authority(ies) of the countries in which the supplier and distributor reside, as appropriate. The date of last refrigerant replacement shall be included in the maintenance record of the refrigeration system.

**Note:** Contamination can be checked by using flame halide lamp tests, gas sniffer tube tests or gas chromatography. Replacement refrigerant gas cylinders may be marked with the test result and the date of testing.

- 7.3.7.3.3** When a cargo transport unit is to be filled with packages containing substances having different control temperatures, all packages shall be pre-cooled to avoid exceeding the lowest control temperature.
- 7.3.7.3.3.1** In the event that non-temperature-controlled substances are transported in the same cargo transport unit as temperature controlled substances, the package(s) containing substances that require refrigeration shall be stowed in such a way as to be readily accessible from the door(s) of the cargo transport unit.
- 7.3.7.3.3.2** If substances with different control temperatures are loaded in the cargo transport unit, the substances with the lowest control temperature shall be stowed in the most readily accessible position from the doors of the cargo transport unit.
- 7.3.7.3.3.3** The door(s) shall be capable of being opened readily in case of emergency so that the package(s) can be removed. The carrier shall be informed about the location of the different substances within the unit. The cargo shall be secured to prevent packages from falling when the door(s) is (are) opened. The packages shall be securely stowed so as to allow for adequate air circulation throughout the cargo.
- 7.3.7.3.4** The master shall be provided with operating instructions for the refrigeration system, procedures to be followed in the event of loss of control and instructions for regular monitoring of operating temperatures. Spare parts shall be carried for the systems described in 7.3.7.4.2.3, 7.3.7.4.2.4 and 7.3.7.4.2.5 so that they are available for emergency use should the refrigeration system malfunction during transport.
- 7.3.7.3.5** In cases where it may not be possible to carry specific substances according to the general provisions, full details of the proposed method of shipment shall be submitted to the competent authority concerned for approval.

#### **7.3.7.4 Methods of temperature control**

- 7.3.7.4.1** The suitability of a particular means of temperature control for transport depends on a number of factors. Among those to be considered are:
- .1 the control temperature(s) of the substance(s) to be transported;
  - .2 the difference between the control temperature and the anticipated ambient temperature conditions;
  - .3 the effectiveness of the thermal insulation of the cargo transport unit. The overall heat transfer coefficient shall not be more than 0.4 W/(m<sup>2</sup>·K) for cargo transport units and 0.6 W/(m<sup>2</sup>·K) for tanks; and
  - .4 the duration of the voyage.
- 7.3.7.4.2** Suitable methods for preventing the control temperature being exceeded are, in order of increasing capability:
- .1 thermal insulation, provided that the initial temperature of the substance is sufficiently below the control temperature;
  - .2 thermal insulation with a cooling method, provided that:
    - an adequate quantity of non-flammable coolant (such as liquid nitrogen or solid carbon dioxide), allowing a reasonable margin for delay, is carried;
    - liquid oxygen or air is not used as a coolant;
    - there is a uniform cooling effect even when most of the coolant has been consumed; and
    - the need to ventilate the cargo transport unit before entering is clearly indicated by a warning on the door(s) (see 5.5.3);
  - .3 single mechanical refrigeration, provided that the unit is thermally insulated and, for substances with a flashpoint lower than the sum of the emergency temperature plus 5°C, explosion proof electrical fittings are used within the cooling compartment to prevent ignition of flammable vapours from the substances;

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- .4 combined mechanical refrigeration system and cooling method, provided that:
  - the two systems are independent of one another; and
  - the provisions of 7.3.7.4.2.2 and 7.3.7.4.2.3 are met;
- .5 dual mechanical refrigeration system, provided that:
  - apart from the integral power supply unit, the two systems are independent of one another;
  - each system alone is capable of maintaining adequate temperature control; and
  - for substances with a flashpoint lower than the sum of the emergency temperature plus 5°C, explosion proof electrical fittings are used within the coolant compartment to prevent ignition of flammable vapours from the substances.

**7.3.7.4.3** The refrigeration equipment and its controls shall be readily and safely accessible and all electrical connections weatherproof. Inside the cargo transport unit, the temperature shall be measured continuously. The measurement shall be taken in the air space of the unit, using two measuring devices independent of each other. The type and place of the measuring devices shall be selected so that their results are representative of the actual temperature in the cargo. At least one of the two measurements shall be recorded in such a manner that temperature changes are easily detectable. The temperature shall be checked every four to six hours and logged.

**7.3.7.4.4** If substances are transported with a control temperature less than +25°C, the cargo transport unit shall be equipped with a visible and audible alarm effectively set at no higher than the control temperature. The alarms shall work independently from the power supply of the refrigeration system.

△ **7.3.7.4.5** If an electrical supply is necessary for the cargo transport unit to operate the refrigeration or heating equipment, it shall be ensured that the correct connecting plugs are fitted. For under deck stowage, plugs shall, as a minimum, be of an IP 55 enclosure in accordance with IEC Publication 60529, with the specification for electrical equipment of temperature class T4 and explosion group IIB. However, when stowed on deck, these plugs shall be of an IP 56 enclosure in accordance with IEC Publication 60529.

**7.3.7.5 Special provisions for self-reactive substances, organic peroxides and polymerizing substances**

**7.3.7.5.1** For self-reactive substances (class 4.1) identified by UN Nos. 3231 and 3232 and organic peroxides (class 5.2) identified by UN Nos. 3111 and 3112, one of the following methods of temperature control described in 7.3.7.4.2 shall be used:

- .1 the methods referred to under 7.3.7.4.2.4 or 7.3.7.4.2.5; or
- .2 the method referred to under 7.3.7.4.2.3 when the maximum ambient temperature to be expected during transport is at least 10°C below the control temperature.

**7.3.7.5.2** For self-reactive substances (class 4.1) identified by UN Nos. 3233 to 3240, organic peroxides (class 5.2) identified by UN Nos. 3113 to 3120 and polymerizing substances identified by UN Nos. 3533 and 3534 or for those substances where the words "TEMPERATURE CONTROLLED" are added as part of the proper shipping name in accordance with 3.1.2.6.2, one of the following methods shall be used:

- .1 the methods referred to under 7.3.7.4.2.4 or 7.3.7.4.2.5;
- .2 the method referred to under 7.3.7.4.2.3 when the maximum ambient temperature to be expected during transport does not exceed the control temperature by more than 10°C; or
- .3 for short international voyages only (see 1.2.1), the methods referred to under 7.3.7.4.2.1 and 7.3.7.4.2.2 when the maximum ambient temperature to be expected during transport is at least 10°C below the control temperature.

**7.3.7.6 Special provisions for flammable gases or liquids having a flashpoint less than 23°C c.c. transported under temperature control**

**7.3.7.6.1** When flammable gases or liquids having a flashpoint less than 23°C c.c. are packed or loaded in a cargo transport unit equipped with a refrigerating or heating system, the cooling or heating equipment shall comply with 7.3.7.4.

**7.3.7.6.2** When flammable liquids having a flashpoint less than 23°C c.c. and not requiring temperature control for safety reasons are transported under temperature control conditions for commercial reasons, explosion proof electrical fittings are required except when the substances are pre-cooled to and transported at a control temperature of at least 10°C below the flashpoint. In case of failure of a non-explosion proof refrigerating system, the system shall be disconnected from the power supply. It shall not be reconnected if the temperature has risen to a temperature less than 10°C below the flashpoint.

**7.3.7.6.3** When flammable gases not requiring temperature control for safety reasons are transported under temperature control conditions for commercial reasons, explosion proof electrical fittings are required.

**7.3.7.7 Special provisions for vehicles transported on ships**

Insulated, refrigerated and mechanically refrigerated vehicles shall conform to the provisions of 7.3.7.4 and 7.3.7.5 as appropriate. In addition, the refrigerating appliance of a mechanically refrigerated vehicle shall be capable of operating independently of the engine used to propel the vehicle.

**7.3.7.8 Approval**

The competent authority may approve that less stringent means of temperature control may be used or that artificial refrigeration may be dispensed with under conditions of transport such as short international voyages or low ambient temperatures.

**7.3.8 Loading of cargo transport units on board ships**

Before loading, cargo transport units used for the transport of dangerous goods shall be examined for external signs of damage, leakage or sifting of contents. Any cargo transport unit found to be damaged, leaking or sifting shall not be loaded on to a ship until repairs have been effected or damaged packages have been removed.



## Chapter 7.4

### *Stowage and segregation on containerhips*

**Note:** To facilitate familiarization with these requirements and to support training of relevant personnel, illustrations applicable to the segregation requirements on containerhips are given in MSC.1/Circ.1440.

#### 7.4.1 Introduction

- 7.4.1.1 The provisions of this chapter apply to the stowage and segregation of containers which meet the definition of a container within the terms of the *International Convention for Safe Containers, 1972* (CSC Convention), as amended, which are transported on deck and in the cargo holds of container ships or on deck and in the cargo holds of other types of ships provided that these stowage positions are properly fitted to give a permanent stowage of containers during transport.
- 7.4.1.2 For ships carrying containers in conventional cargo spaces not properly fitted for the permanent stowage of containers the provisions of chapter 7.6 apply.
- 7.4.1.3 For stowage of FISH MEAL, UNSTABILIZED (UN 1374), FISH MEAL, STABILIZED (UN 2216) and KRILL MEAL (UN 3497) in containers, the provisions of 7.6.2.7.2.2 also apply.
- 7.4.1.4 For stowage of AMMONIUM NITRATE (UN 1942), AMMONIUM NITRATE BASED FERTILIZER (UN 2067 AND 2071) in containers, the applicable provisions of 7.6.2.8.4 and 7.6.2.11.1 also apply.

#### 7.4.2 Stowage requirements

##### 7.4.2.1 Provisions for hatchless containerhips

Dangerous goods shall only be transported in or vertically above hatchless container holds if:

- .1 the dangerous goods are permitted for under deck stowage as specified in the Dangerous Goods List; and
- .2 the hatchless container hold is in full compliance with the provisions of regulation II-2/19 of SOLAS, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable.

##### 7.4.2.2 Provisions for ships with partially weathertight hatchway covers

###### 7.4.2.2.1 *Provisions for partially weathertight hatchway covers with effective gutterbars\**

- 7.4.2.2.1.1 Partially weathertight hatchway covers fitted with *effective gutterbars\** can be regarded as “resistant to fire and liquid” for the purpose of stowage and segregation of containers containing dangerous goods on containerhips fitted with such hatchway covers. Additionally segregation requirements shall be in accordance with the requirements in paragraph 7.4.3.2.

- 7.4.2.2.1.2 When “not in the same vertical line unless separated by a deck” is required, containers containing dangerous goods shall not be stowed in any tier directly above a *clear gap\** unless the cargo hold complies with the relevant requirements for the class and flashpoint of the dangerous goods in regulation II-2/19 of SOLAS 74, as amended, or regulation II-2/54 of SOLAS, as amended by resolutions indicated in II-2/1.2.1, as applicable. Additionally, containers containing incompatible dangerous goods shall not be stowed within the relevant *sensitive vertical lines\** under deck.

###### 7.4.2.2.2 *Provisions for partially weathertight hatchway covers without effective gutterbars\**

- 7.4.2.2.2.1 Where hatchway covers are *not fitted with effective gutterbars*, containers containing dangerous goods shall not be stowed on such hatchway covers, unless the cargo hold complies with the relevant requirements

\* For definitions and details see MSC/Circ.1087 found in the IMDG Code Supplement.

for the class and flashpoint of the dangerous goods in regulation II-2/19 of SOLAS 74, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable.

**7.4.2.2.2.2** Where hatchway covers are not fitted with *effective gutterbars*,\* the following applies where stowage “not in the same vertical line” is required in 7.4.3.3.

**7.4.2.2.2.3** When containers containing dangerous goods are stowed on deck, containers containing incompatible dangerous goods shall not be stowed within the relevant *sensitive vertical lines*\* of any *clear gap*\* on either side of the hatchway cover below deck.

**7.4.2.2.2.4** When containers containing dangerous goods are stowed below deck within the relevant sensitive vertical lines of a clear gap, containers with incompatible dangerous goods shall not be stowed on the hatches above the hold.\*

#### **7.4.2.3 Provisions for containers with flammable gases and highly flammable liquids**

**7.4.2.3.1** In cargo ships of 500 gross tons or over and passenger ships constructed before 1 September 1984, and in cargo ships of less than 500 gross tons constructed before 1 February 1992, containers with flammable gases or with flammable liquids having a flashpoint of less than 23°C c.c., shall be stowed on deck only, unless otherwise approved by the Administration.

**7.4.2.3.2** A container with flammable gases or flammable liquids having a flashpoint of less than 23°C c.c. transported on deck shall be stowed at least 2.4 m horizontally and projected vertically away from any potential source of ignition.

**7.4.2.3.3** A container under temperature control that is not of a certified safe type shall not be stowed under deck together with containers containing flammable gases or with liquids having a flashpoint of less than 23°C c.c.

#### **7.4.2.4 Ventilation provisions**

**7.4.2.4.1** In cargo ships of 500 gross tons or over and passenger ships constructed before 1 September 1984, and in cargo ships of less than 500 gross tons constructed before 1 February 1992, containers with the following dangerous goods may be stowed under deck only if the cargo space is equipped with mechanical ventilation and if under deck stowage is permitted in the Dangerous Goods List:

- dangerous goods of class 2.1;
- dangerous goods of class 3 with a flashpoint of less than 23°C c.c.;
- dangerous goods of class 4.3;
- dangerous goods of class 6.1 with a subsidiary hazard of class 3;
- dangerous goods of class 8 with a subsidiary hazard of class 3; and
- dangerous goods to which a specific stowage requirement requiring mechanical ventilation in column 16a of the Dangerous Goods List is assigned.

Otherwise containers shall be stowed on deck only.

**7.4.2.4.2** The capacity of the mechanical ventilation (number of air changes per hour) shall be to the satisfaction of the Administration.

### **7.4.3 Segregation requirements**

#### **7.4.3.1 Definitions and application**

**7.4.3.1.1** Container space means a distance of not less than 6 m fore and aft or not less than 2.4 m athwartships.

**7.4.3.1.2** The provisions for segregation between containers on board container ships with closed cargo holds and on board hatchless container ships are given in the tables in 7.4.3.2 and 7.4.3.3, respectively.

\* For definitions and details see MSC/Circ.1087 found in the IMDG Code Supplement.



## Part 7 – Provisions concerning transport operations

Table of segregation of containers on board container ships with closed cargo holds

Segregation requirement	Vertical			Horizontal					
	Closed versus closed	Closed versus open	Open versus open	Closed versus closed		Closed versus open		Open versus open	
				On deck	Under deck	On deck	Under deck	On deck	Under deck
“Away from” .1	One on top of the other permitted	Open on top of closed permitted	Not in the same vertical line unless segregated by a deck	No restriction	No restriction	No restriction	No restriction	One container space	One container space or one bulkhead
		Otherwise as for “open versus open”		No restriction	No restriction	No restriction	No restriction	One container space	One container space
“Separated from” .2	Not in the same vertical line unless segregated by a deck	As for “open versus open”	Not in the same vertical line unless segregated by a deck	One container space	One container space or one bulkhead	One container space	One container space or one bulkhead	One container space	One bulkhead
				One container space	One container space	One container space	Two container spaces	Two container spaces	One bulkhead
“Separated by a complete compartment or hold from” .3				One container space	One bulkhead	One container space	One bulkhead	Two container spaces	Two bulkheads
				Two container spaces	One bulkhead	Two container spaces	One bulkhead	Three container spaces	Two bulkheads
“Separated longitudinally by an intervening complete compartment or hold from” .4*		Prohibited		Minimum horizontal distance of 24 m	One bulkhead and minimum horizontal distance of 24 m*	Minimum horizontal distance of 24 m	Two bulkheads	Minimum horizontal distance of 24 m	Two bulkheads
				Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

\* Containers not less than 6 m from intervening bulkhead.

**Note:** All bulkheads and decks shall be resistant to fire and liquids.

7.4.3.3 Table of segregation of containers on board hatchless containerships

Segregation requirement	Vertical			Horizontal					
	Closed versus closed	Closed versus open	Open versus open	Closed versus closed		Closed versus open		Open versus open	
				On deck	Under deck	On deck	Under deck	On deck	Under deck
"Away from" .1	One on top of the other permitted	Open on top of closed permitted otherwise as for "open versus open"	Not in the same vertical line	No restriction	No restriction	No restriction	No restriction	One container space	One container space or one bulkhead
"Separated from" .2				No restriction	No restriction	No restriction	No restriction	One container space	One container space
				One container space	One container space or one bulkhead	One container space	One container space or one bulkhead	One container space and not in or above same hold	One bulkhead
"Separated by a complete compartment or hold from" .3	Not in the same vertical line	As for "open versus open"		One container space	One container space	Two container spaces	Two container spaces	Two container spaces and not in or above same hold	One bulkhead
				One container space and not in or above same hold	One bulkhead	One container space and not in or above same hold	One bulkhead	Two container spaces and not in or above same hold	Two bulkheads
				Two container spaces and not in or above same hold	One bulkhead	Two container spaces and not in or above same hold	One bulkhead	Three container spaces and not in or above same hold	Two bulkheads
"Separated longitudinally by an intervening complete compartment or hold from" .4		Prohibited		Minimum horizontal distance of 24 m and not in or above same hold	One bulkhead and minimum horizontal distance of 24 m	Minimum horizontal distance of 24 m and not in or above same hold	Two bulkheads	Minimum horizontal distance of 24 m and not in or above same hold	Two bulkheads
				Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

\* Containers not less than 6 m from intervening bulkhead.

**Note:** All bulkheads and decks shall be resistant to fire and liquids.

## Chapter 7.5

### *Stowage and segregation on ro-ro ships*

**Note:** To facilitate familiarization with these requirements and to support training of relevant personnel, illustrations applicable to the segregation requirements on ro-ro ships are given in MSC.1/Circ.1440.

#### 7.5.1 Introduction

- 7.5.1.1 The provisions of this chapter apply to the stowage and segregation of cargo transport units which are transported in ro-ro cargo spaces.
- 7.5.1.2 For ro-ro ships which incorporate stowage positions which are properly fitted to give a permanent stowage of containers during transport, the provisions of chapter 7.4 apply for containers carried in these spaces.
- 7.5.1.3 For ro-ro ships which incorporate conventional cargo spaces, the provisions of chapter 7.6 apply in these spaces.
- 7.5.1.4 In case more than one container is loaded on the same chassis in a ro-ro cargo space, the segregation of chapter 7.4 applies between the containers.

#### 7.5.2 Stowage provisions

- 7.5.2.1 Loading and unloading operations on each ro-ro cargo space shall take place under the supervision of either a working party consisting of officers and other crew members or responsible persons appointed by the master.
- 7.5.2.2 During the voyage, access to such spaces by passengers and other unauthorized persons shall only be permitted when such persons are accompanied by an authorized crew member.
- 7.5.2.3 All doors leading directly to these spaces shall be securely closed during the voyage and notices or signs prohibiting entrance to such spaces shall be conspicuously displayed.
- 7.5.2.4 The transport of dangerous goods shall be prohibited in any ro-ro cargo space in which the foregoing provisions cannot be met.
- 7.5.2.5 Closing arrangements for the openings between ro-ro cargo spaces and machinery and accommodation spaces shall be such as to avoid the possibility of dangerous vapours and liquids entering such spaces. Such openings shall normally be kept securely closed when dangerous cargo is on board, except to permit access by authorized persons or for emergency use.
- 7.5.2.6 Dangerous goods required to be carried on deck only shall not be carried in closed ro-ro cargo spaces, but may be carried in open ro-ro cargo spaces when authorized by the Administration.
- 7.5.2.7 Flammable gases or liquids having a flashpoint of less than 23°C c.c. shall not be stowed in a closed ro-ro cargo space or special category space on a passenger ship unless:
  - the design, construction and equipment of the space comply with the provisions of regulation II-2/19 of SOLAS, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable, and the ventilation system is operated to maintain at least six air changes per hour; or
  - the ventilation system of the space is operated to maintain at least ten air changes per hour and non-certified safe electrical systems in the space are capable of being isolated by means other than removal of fuses in the event of failure of the ventilation system or any other circumstance likely to cause accumulation of flammable vapours.

Otherwise stowage is restricted to *on deck only*.
- 7.5.2.8 Cargo transport units with flammable gases or liquids having a flashpoint of less than 23°C c.c. and transported on deck shall be stowed at least 3 m from any potential sources of ignition.

- 7.5.2.9** Mechanically operated refrigeration or heating equipment fitted to any cargo transport unit shall not be operated during the voyage when stowed in a closed ro-ro cargo space or a special category space on a passenger ship.
- 7.5.2.10** Electrically operated refrigeration or heating equipment fitted to any cargo transport unit stowed in a closed ro-ro cargo space or special category space on a passenger ship shall not be operated when flammable gases or liquids having a flashpoint of less than 23°C c.c. are present in the cargo transport unit or in the same space, unless:
- the design, construction and equipment of the space comply with the provisions of regulation II-2/19 of SOLAS, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable; or
  - the ventilation system of the space is operated to maintain at least ten air changes per hour and all electrical systems in the space are capable of being isolated by means other than removal of fuses in the event of ventilation failure or other circumstance likely to cause accumulation of flammable vapours;
  - and, in either case, the refrigeration or heating equipment of the cargo transport unit shall comply with paragraph 7.3.7.6.
- 7.5.2.11** In ships the keel of which was laid before 1 September 1984 and for which regulation II-2/20 of SOLAS, as amended, or regulations II-2/37 and 38 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, are not applicable to a closed ro-ro cargo space, mechanical ventilation shall be provided to the satisfaction of the Administration. The ventilation fans shall be operating at all times when vehicles are in such spaces.
- 7.5.2.12** If continuous ventilation is impracticable in a closed ro-ro cargo space other than a special category space on a passenger ship, ventilation fans shall be operated daily for a limited period, as weather permits. In any case, prior to discharge, the fans shall be operated for a reasonable period. The ro-ro cargo space shall be proved gas-free at the end of the period. When the ventilation is not continuous, electrical systems which are not certified safe shall be isolated.
- 7.5.2.13** The master of a ship carrying dangerous goods in ro-ro cargo spaces shall ensure that, during loading and unloading operations and during the voyage, regular inspections of these spaces are made by an authorized crew member or responsible person in order to achieve early detection of any hazard.

### 7.5.3 Segregation provisions

**7.5.3.1** The provisions for segregation between cargo transport units onboard ro-ro ships are given in the table in 7.5.3.2.

**7.5.3.2 Table of segregation of cargo transport units on board ro-ro ships**

Segregation requirement	Horizontal						
		Closed versus closed		Closed versus open		Open versus open	
		On deck	Under deck	On deck	Under deck	On deck	Under deck
“Away from” .1	Fore and aft	No restriction	No restriction	No restriction	No restriction	At least 3 m	At least 3 m
	Athwartships	No restriction	No restriction	No restriction	No restriction	At least 3 m	At least 3 m
“Separated from” .2	Fore and aft	At least 6 m	At least 6 m or one bulkhead	At least 6 m	At least 6 m or one bulkhead	At least 6 m	At least 12 m or one bulkhead
	Athwartships	At least 3 m	At least 3 m or one bulkhead	At least 3 m	At least 6 m or one bulkhead	At least 6 m	At least 12 m or one bulkhead
“Separated by a complete compartment or hold from” .3	Fore and aft	At least 12 m	At least 24 m + deck	At least 24 m	At least 24 m + deck	At least 36 m	Two decks or two bulkheads
	Athwartships	At least 12 m	At least 24 m + deck	At least 24 m	At least 24 m + deck	Prohibited	Prohibited
“Separated longitudinally by an intervening complete compartment or hold from” .4	Fore and aft	At least 36 m	Two bulkheads or at least 36 m + two decks	At least 36 m	At least 48 m including two bulkheads	At least 48 m	Prohibited
	Athwartships	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

**Note:** All bulkheads and decks shall be resistant to fire and liquid.

## Chapter 7.6

### *Stowage and segregation on general cargo ships*

#### 7.6.1 Introduction

- 7.6.1.1 The provisions of this chapter apply to the stowage and segregation of dangerous goods stowed in the conventional way on board general cargo ships. They apply also to containers which are transported in conventional cargo spaces, including cargo spaces on the weather deck, not properly fitted to give a permanent stowage of the containers during transport.
- 7.6.1.2 For ships carrying containers in stowage positions which are properly fitted for the permanent stowage of containers the provisions of chapter 7.4 apply.

#### 7.6.2 Stowage and handling provisions

##### 7.6.2.1 Provisions for all classes

- 7.6.2.1.1 The minimum stacking height for testing packagings intended to contain dangerous goods in accordance with chapter 6.1 is 3 m. For IBCs and large packagings, the stacking test load shall be determined in accordance with 6.5.6.6.4 and 6.6.5.3.3.4 respectively.
- 7.6.2.1.2 Drums containing dangerous goods shall always be stowed in an upright position unless otherwise authorized by the competent authority.
- 7.6.2.1.3 The stowage of dangerous goods shall be so arranged as to ensure clear walkways and access to all facilities necessary for the safe working of the ship. When dangerous goods are stowed on deck, hydrants, sounding pipes and the like and access thereto shall be kept free and clear of such goods.
- 7.6.2.1.4 Fibreboard packagings, paper bags and other packages susceptible to water damage shall be stowed *under deck* or, if they are stowed on deck, they shall be so protected that at no time are they exposed to weather or to seawater.
- 7.6.2.1.5 Portable tanks shall not be overstowed by other cargo unless they are designed for that purpose or unless they are protected to the satisfaction of the competent authority.
- 7.6.2.1.6 Cargo spaces and decks shall be clean and dry as relevant to the hazards of the dangerous goods to be carried. In order to reduce the risk of ignition, the space shall be free of dust from other cargoes, such as grain or coal dust.
- 7.6.2.1.7 Packages and cargo transport units found to be damaged, leaking or sifting shall not be loaded on a general cargo ship. Care shall be taken to ensure that excessive water, snow, ice or foreign matter adhering to packages and cargo transport units shall be removed before loading.
- 7.6.2.1.8 Packages and cargo transport units and any other goods shall be adequately braced and secured for the voyage.\* Packages shall be loaded in such a way that there will be a minimum likelihood of damage to them and to any fittings during transport. Fittings on packages or portable tanks shall be adequately protected.

##### 7.6.2.2 Provisions for flammable gases and highly flammable liquids

- 7.6.2.2.1 In cargo ships of 500 gross tons or over and passenger ships constructed before 1 September 1984, and in cargo ships of less than 500 gross tons constructed before 1 February 1992, flammable gases or flammable liquids having a flashpoint of less than 23°C c.c., shall be stowed on deck only, unless otherwise approved by the Administration.
- 7.6.2.2.2 Flammable gases or liquids having a flashpoint less than 23°C c.c. transported on deck shall be stowed at least 3 m from any potential source of ignition.

\* Refer to regulation VII/5 of SOLAS, as amended.

**7.6.2.3 Ventilation provisions**

7.6.2.3.1 In cargo ships of 500 gross tons or over and passenger ships constructed before 1 September 1984, and in cargo ships of less than 500 gross tons constructed before 1 February 1992, the following dangerous goods, may be stowed *under deck* only if the cargo space is equipped with mechanical ventilation and if under deck stowage is permitted in the Dangerous Goods List:

- dangerous goods of class 2.1;
- dangerous goods of class 3 with a flashpoint of less than 23°C c.c.;
- dangerous goods of class 4.3;
- dangerous goods of class 6.1 with a subsidiary hazard of class 3;
- dangerous goods of class 8 with a subsidiary hazard of class 3, and
- dangerous goods to which a specific stowage requirement requiring mechanical ventilation in column 16a of the Dangerous Goods List is assigned.

Otherwise containers shall be stowed on deck only.

7.6.2.3.2 The capacity of the mechanical ventilation (number of air changes per hour) shall be to the satisfaction of the Administration.

**7.6.2.4 Provisions for class 1**

7.6.2.4.1 All compartments or holds and cargo transport units shall be locked or suitably secured in order to prevent unauthorized access. The means of locking and securing shall be such that, in the case of emergency, access can be gained without delay.

7.6.2.4.2 Loading and unloading procedures and equipment used should be of such a nature that sparks are not produced, in particular where the floors of the cargo compartment are not constructed of close-boarded wood. All cargo handlers should be briefed by the shipper or receiver of the potential risks and necessary precautions, prior to commencing the handling of explosives. In the event of the contents of packages being affected by water whilst on board, immediate advice shall be sought from the shipper; pending this advice, handling of the packages shall be avoided.

**7.6.2.4.3 Segregation on deck**

When goods in different compatibility groups are transported on deck, they shall be stowed not less than 6 m apart unless their mixed stowage is allowed according to 7.2.7.

**7.6.2.4.4 Segregation in single hold ships**

In a single hold ship, dangerous goods of class 1 shall be segregated in accordance with 7.2.7 except that:

- .1 Goods in Division 1.1 or 1.2 of compatibility group B may be stowed in the same hold as substances of compatibility group D provided:
  - the net explosives mass of goods of compatibility group B does not exceed 50 kg; and
  - such goods are stowed in a closed cargo transport unit which is stowed at least 6 m from the substances of compatibility group D.
- .2 Goods in Division 1.4 of compatibility group B may be stowed in the same hold as substances of compatibility group D provided they are separated either by a distance of at least 6 m or by a steel division.

7.6.2.4.5 In the event that a package containing goods of class 1 is found to be suffering from breakage or leakage expert advice should be obtained for its safe handling and disposal.

**7.6.2.5 Provisions for class 2**

7.6.2.5.1 When pressure receptacles are stowed in a vertical position they shall be stowed in a block, cribbed or boxed-in with suitable sound lumber and the box or crib dunnaged to provide clearance from a steel deck. Pressure receptacles in a box or crib shall be braced to prevent any movement. The box or crib (gas rack) shall be securely chocked and lashed to prevent movement in any direction.

7.6.2.5.2 Pressure receptacles stowed on deck shall be protected from sources of heat.

**7.6.2.6 Provisions for class 3**

7.6.2.6.1 Class 3 substances with a flashpoint of less than 23°C c.c. packaged in jerricans, plastics (3H1, 3H2), drums, plastics (1H1, 1H2), plastics receptacles in a plastic drum (6HH1, 6HH2) and Plastic Intermediate Bulk Containers (IBCs 31H1 and 31H2), shall be stowed *on deck only* unless packed in a closed cargo transport unit.

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**7.6.2.6.2** Packages loaded on deck shall be protected from sources of heat.

**7.6.2.7 Provisions for classes 4.1, 4.2 and 4.3**

**7.6.2.7.1** Packages stowed on deck shall be protected from sources of heat.

**7.6.2.7.2** Stowage provisions for FISH MEAL, UNSTABILIZED (UN 1374), FISH MEAL, STABILIZED (UN 2216, class 9) and KRILL MEAL (UN 3497)

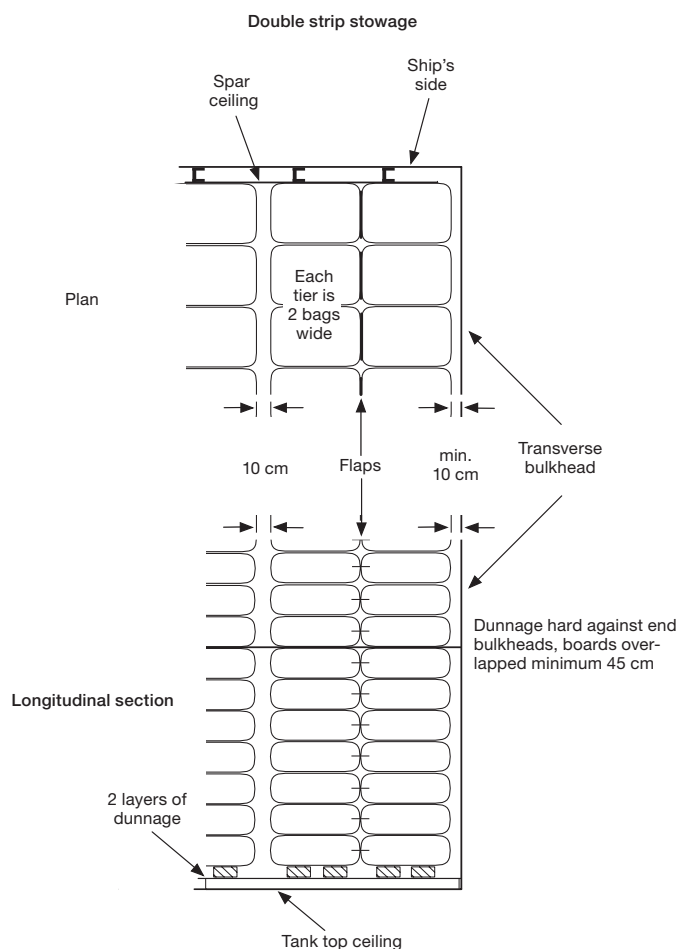
**7.6.2.7.2.1** For loose packagings:

- .1 Temperature readings shall be taken 3 times a day during the voyage and recorded.
- .2 If the temperature of the cargo exceeds 55°C and continues to increase, ventilation to the hold shall be restricted. If self-heating continues, then carbon dioxide or inert gas shall be introduced. The ship shall be equipped with facilities for introducing carbon dioxide or inert gas into the holds.
- .3 The cargo shall be stowed protected from sources of heat.
- .4 For UN 1374 and 3497, where loose bags are being carried, double strip stowage is recommended, provided there is good surface and through ventilation. The diagram in 7.6.2.7.2.3 shows how this can be achieved. For UN 2216, where loose bags are being carried, no special ventilation is required for block stowage of bagged cargo.

**7.6.2.7.2.2** For containers:

- .1 After packing, the doors and other openings shall be sealed to prevent the penetration of air into the unit.
- .2 Temperature readings in the hold shall be taken once a day early in the morning during the voyage and recorded.
- .3 If the temperature of the hold rises excessively above ambient and continues to increase, the possible need to apply copious quantities of water in an emergency and the consequent risk to the stability of the ship shall be considered.
- .4 The cargo shall be stowed protected from sources of heat.

**7.6.2.7.2.3**





**7.6.2.7.3 Stowage provisions for SEED CAKE (UN 1386)**

**7.6.2.7.3.1** Stowage provisions for SEED CAKE, containing vegetable oil (a) mechanically expelled seeds, containing more than 10% oil or more than 20% oil and moisture combined:

- .1 through and surface ventilation is required;
- .2 if the voyage exceeds 5 days, the ship shall be equipped with facilities for introducing carbon dioxide or inert gas into the cargo spaces;
- .3 bags shall always be stowed in double strip, as shown in 7.6.2.7.2.3 of this Code for fish meal, unstabilized; and
- .4 regular temperature readings shall be taken at varying depths in the cargo space and recorded. If the temperature of the cargo exceeds 55°C and continues to increase, ventilation to the cargo spaces shall be restricted. If self-heating continues, then carbon dioxide or inert gas shall be introduced.

**7.6.2.7.3.2** Stowage provisions for 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:

- .1 surface ventilation is required to assist in removing any residual solvent vapour;
- .2 if bags are stowed without provision for ventilation to circulate throughout the stow and the voyage exceeds 5 days, regular temperature readings shall be taken at varying depths in the hold and recorded; and
- .3 if the voyage exceeds 5 days, the vessel shall be equipped with facilities for introducing carbon dioxide or inert gas into the cargo spaces.

**7.6.2.8 Provisions for class 5.1**

**7.6.2.8.1** Cargo spaces shall be cleaned before oxidizing substances are loaded into them. All combustible materials which are not necessary for the stowage of such cargoes shall be removed from the hold.

**7.6.2.8.2** As far as reasonably practicable, non-combustible securing and protecting materials and only a minimum of clean dry wooden dunnage shall be used.

**7.6.2.8.3** Precautions shall be taken to avoid the penetration of oxidizing substances into other cargo spaces, bilges, etc., which may contain combustible material.

**7.6.2.8.4** UN 1942 AMMONIUM NITRATE and UN 2067 AMMONIUM NITRATE BASED FERTILIZER may be stowed under deck in a clean cargo space capable of being opened up in an emergency. The possible need to open hatches in case of fire to provide maximum ventilation and to apply water in an emergency and the consequent risk to the stability of the ship through flooding of cargo space shall be considered before loading.

**7.6.2.8.5** After discharge, cargo spaces used for the transport of oxidizing substances shall be inspected for contamination. A space that has been contaminated shall be properly cleaned and examined before being used for other cargoes.

**7.6.2.9 Provisions for self-reactive substances of class 4.1 and for class 5.2**

**7.6.2.9.1** Packages shall be stowed protected from sources of heat.

**7.6.2.9.2** When stowage arrangements are made, it shall be borne in mind that it may become appropriate to jettison a package or packages of this cargo.

**7.6.2.10 Provisions for classes 6.1 and 8**

**7.6.2.10.1** After discharge, spaces used for the transport of substances of this class shall be inspected for contamination. A space which has been contaminated shall be properly cleaned and examined before being used for other cargoes.

**7.6.2.10.2** Substances of class 8 shall be kept as dry as reasonably practicable, since in the presence of moisture they may be corrosive to most metals and some also react violently with water.



**Part 7 – Provisions concerning transport operations****7.6.2.11 Stowage of goods of class 9****7.6.2.11.1 Stowage provisions for AMMONIUM NITRATE BASED FERTILIZER, UN 2071**

7.6.2.11.1.1 AMMONIUM NITRATE BASED FERTILIZER, UN 2071 shall be stowed in a clean cargo space capable of being opened up in an emergency. In the case of bagged fertilizer or fertilizer in containers or in bulk containers, it is sufficient if, in the case of an emergency, the cargo is accessible through free approaches (hatch entries), and mechanical ventilation enables the master to exhaust any gases or fumes resulting from decomposition. The possible need to open hatches in case of fire to provide maximum ventilation and to apply water in an emergency, and the consequent risk to the stability of the ship through flooding of the cargo space, shall be considered before loading.

7.6.2.11.1.2 If suppression of decomposition should prove impracticable (such as in bad weather), there would not necessarily be immediate danger to the structure of the ship. However, the residue left after decomposition may have only half the mass of the original cargo; this loss of mass may also affect the stability of the ship and shall be considered before loading.

7.6.2.11.1.3 AMMONIUM NITRATE BASED FERTILIZER, UN 2071 shall be stowed out of direct contact with a metal engine-room bulkhead. In the case of bagged material, this may be done, for example, by using wooden boards to provide an air space between the bulkhead and the cargo. This requirement need not apply to short international voyages.

7.6.2.11.1.4 In the case of ships not fitted with smoke-detecting or other suitable devices, arrangements shall be made during the voyage to inspect cargo spaces containing these fertilizers at intervals not exceeding 4 h (such as to sniff at the ventilators serving them) to ensure early detection of decomposition should that occur.

**7.6.2.11.2 Stowage provisions for FISH MEAL, STABILIZED (UN 2216, class 9)**

7.6.2.11.2.1 For stowage provisions for FISH MEAL, STABILIZED (UN 2216, class 9), see 7.6.2.7.2.

**7.6.2.12 Stowage of dangerous goods in flexible bulk containers**

7.6.2.12.1 The stowage of dangerous goods in flexible bulk containers is not permitted on deck.

7.6.2.12.2 Flexible bulk containers shall be stowed in such a way that there are no void spaces between flexible bulk containers in the hold. If the flexible bulk containers do not completely fill the hold, adequate measures shall be taken to avoid shifting of cargo.

7.6.2.12.3 The maximum permissible stacking height of flexible bulk containers shall never exceed three high.

7.6.2.12.4 When flexible bulk containers are fitted with venting devices, the stowage of the flexible bulk containers shall not impede their function.

**7.6.3 Segregation provisions****7.6.3.1 Segregation from foodstuffs**

7.6.3.1.1 For the purpose of this subsection, the terms “away from”, “separated from” and “separated by a complete compartment or hold from” are defined in 7.6.3.2.

7.6.3.1.2 Dangerous goods having a primary or subsidiary hazard of classes 2.3, 6.1, 7 (with the exception of UN 2908, 2909, 2910 and 2911), 8 and dangerous goods for which it is referred to in segregation code SG29 or SG50 in column 16b of the Dangerous Goods List stowed in a conventional way shall be “separated from” foodstuffs stowed in a conventional way. If either dangerous goods or foodstuffs are in a closed cargo transport unit, dangerous goods shall be stowed “away from” foodstuffs. If both dangerous goods and foodstuffs are in different closed cargo transport units, no segregation requirements shall apply.

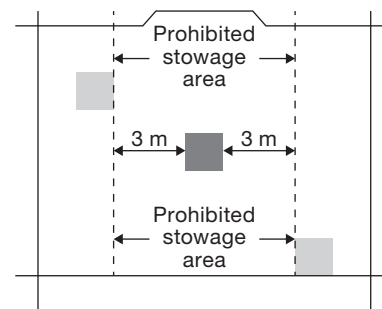
7.6.3.1.3 Dangerous goods of class 6.2 stowed in a conventional way shall be “separated by a complete compartment or hold from” foodstuffs stowed in a conventional way. If either dangerous goods or foodstuffs are in a closed cargo transport unit, dangerous goods shall be stowed “separated from” foodstuffs.

### 7.6.3.2 Segregation of packages containing dangerous goods and stowed in the conventional way

#### Definitions of the segregation terms

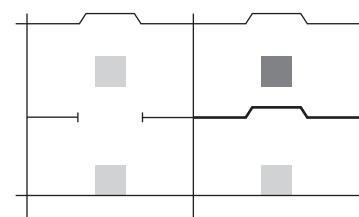
##### Away from:

Effectively segregated so that the incompatible goods cannot interact dangerously in the event of an accident but may be transported in the same compartment or hold or *on deck*, provided a minimum horizontal separation of 3 m, projected vertically, is obtained.



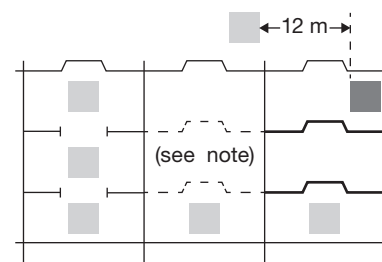
##### Separated from:

In different compartments or holds when stowed *under deck*. Provided the intervening deck is resistant to fire and liquid, a vertical separation, i.e. in different compartments, may be accepted as equivalent to this segregation. For *on deck* stowage, this segregation means a separation by a distance of **at least 6 m horizontally**.



##### Separated by a complete compartment or hold from:

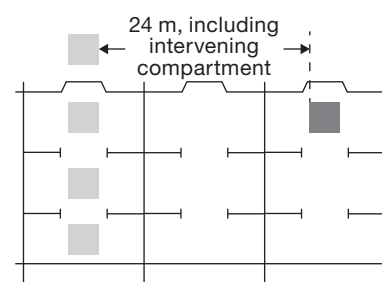
Either a vertical or a horizontal separation. If the intervening decks are not resistant to fire and liquid, then only a longitudinal separation, i.e. by an intervening complete compartment or hold, is acceptable. For *on deck* stowage, this segregation means a separation by a distance of **at least 12 m horizontally**. The same distance has to be applied if one package is stowed on deck, and the other one in an upper compartment.



**Note:** One of the two decks must be resistant to fire and to liquid

##### Separated longitudinally by an intervening complete compartment or hold from:

Vertical separation alone does not meet this requirement. Between a package *under deck* and one on deck, a minimum distance of 24 m, including a complete compartment, must be maintained longitudinally. For *on deck* stowage, this segregation means a separation by a distance of **at least 24 m longitudinally**.



#### Legend

Reference package . . . . .	
Package containing incompatible goods . . . . .	
Deck resistant to fire and liquid . . . . .	

**Note:** Vertical lines represent transverse watertight bulkheads between cargo spaces.

**Part 7 – Provisions concerning transport operations****7.6.3.3 Segregation of dangerous goods stowed in the conventional way from those transported in cargo transport units**

**7.6.3.3.1** Dangerous goods stowed in the conventional way shall be segregated from goods transported in open cargo transport units in accordance with 7.6.3.2.

**7.6.3.3.2** Dangerous goods stowed in the conventional way shall be segregated from goods transported in closed cargo transport units in accordance with 7.6.3.2 except that:

- .1 where “away from” is required, no segregation between the packages and the closed cargo transport units is required; and
- .2 where “separated from” is required, the segregation between the packages and the closed cargo transport units may be as for “away from” as defined in 7.6.3.2.

**7.6.3.4 Segregation of dangerous goods in cargo transport units stowed in conventional cargo spaces**

**7.6.3.4.1** Dangerous goods in different closed cargo transport units (closed freight containers) stowed in holds and compartments not properly fitted to give a permanent stowage of the containers during transport shall be segregated from each other in accordance with 7.6.3.2 except that:

- .1 where “away from” is required, no segregation between the closed cargo transport units is required; and
- .2 where “separated from” is required, the segregation between the closed cargo transport units may be as for “away from” as defined in 7.6.3.2.

**7.6.3.5 Segregation between bulk materials possessing chemical hazards and dangerous goods in packaged form**

**7.6.3.5.1** Unless otherwise required in this Code or in the IMSBC Code, segregation between bulk materials possessing chemical hazards and dangerous goods in packaged form shall be in accordance with the following table.

**7.6.3.5.2 Segregation table**

Bulk materials (classified as dangerous goods)	Dangerous goods in packaged form																
	CLASS	1.1 1.2 1.5	1.3 1.6	1.4	2.1	2.2 2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
Flammable solids	4.1	4	3	2	2	2	2	X	1	X	1	2	X	3	2	1	X
Substances liable to spontaneous combustion	4.2	4	3	2	2	2	2	1	X	1	2	2	1	3	2	1	X
Substances which, in contact with water, emit flammable gases	4.3	4	4	2	2	X	2	X	1	X	2	2	X	2	2	1	X
Oxidizing substances (agents)	5.1	4	4	2	2	X	2	1	2	2	X	2	1	3	1	2	X
Toxic substances	6.1	2	2	X	X	X	X	X	1	X	1	1	X	1	X	X	X
Radioactive material	7	2	2	2	2	2	2	2	2	2	1	2	X	3	X	2	X
Corrosive substance	8	4	2	2	1	X	1	1	1	1	2	2	X	3	2	X	X
Miscellaneous dangerous substances and articles	9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Materials hazardous only in bulk (MHB)		X	X	X	X	X	X	X	X	X	X	X	X	3	X	X	X

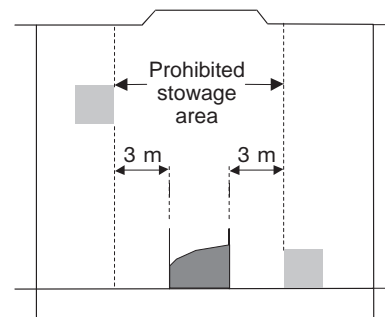
Numbers and symbols relate to the following terms, as defined in this chapter:

- 1 – “away from”
- 2 – “separated from”
- 3 – “separated by a complete compartment or hold from”
- 4 – “separated longitudinally by an intervening complete compartment or hold from”
- X – the segregation, if any, is shown in the Dangerous Goods List in this Code or the individual entries in the IMSBC Code

### 7.6.3.5.3 Definitions of the segregation terms

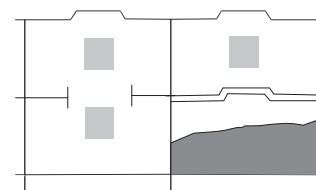
#### *Away from:*

Effectively segregated so that incompatible materials cannot interact dangerously in the event of an accident but may be transported in the same compartment or hold or *on deck* provided a minimum horizontal separation of 3 m, projected vertically, is provided.



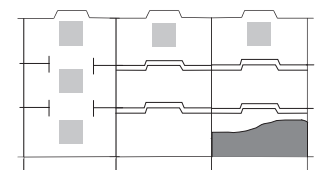
#### *Separated from:*

In different holds when stowed *under deck*. Provided an intervening deck is resistant to fire and liquid, a vertical separation, i.e. in different compartments, may be accepted as equivalent to this segregation.



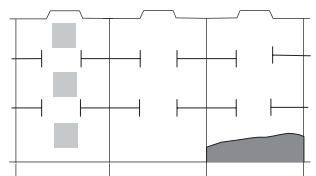
#### *Separated by a complete compartment or hold from:*

Either a vertical or a horizontal separation. If the decks are not resistant to fire and liquid, then only a longitudinal separation, i.e. by an intervening complete compartment, is acceptable.



#### *Separated longitudinally by an intervening complete compartment or hold from:*

Vertical separation alone does not meet this requirement.



#### Legend

- Reference bulk material ..... 
- Package containing incompatible goods ..... 
- Deck resistant to fire and liquid ..... 

**Note:** Vertical lines represent transverse watertight bulkheads between cargo spaces.

## Chapter 7.7

### *Shipborne barges on barge-carrying ships*

#### 7.7.1 Introduction

- 7.7.1.1 The provisions of this chapter are applicable to shipborne barges which contain packaged dangerous goods or solid bulk materials possessing chemical hazards while aboard barge-carrying ships.
- 7.7.1.2 Barges used for the shipborne transport of packaged dangerous goods or solid bulk materials possessing chemical hazards shall be of proper design and adequate strength to resist the stresses imposed by the conditions of the services in which they are employed and they shall be adequately maintained. Shipborne barges shall be approved in accordance with provisions for certification of a recognized classification society, or any organization approved by and acting on behalf of the competent authority of the countries concerned.

#### 7.7.2 Definitions

- 7.7.2.1 *Loading*, for the purpose of this chapter, means the placement of cargo into a shipborne barge.
- 7.7.2.2 *Stowage*, for the purposes of this chapter, means the placement of a shipborne barge aboard the barge-carrying ship.

#### 7.7.3 Barge loading

- 7.7.3.1 Packages shall be examined and any found to be damaged, leaking or sifting shall not be loaded into a shipborne barge. Care shall be taken to ensure that excessive water, snow, ice or foreign matter adhering to packages shall be removed before loading into a shipborne barge.
- 7.7.3.2 Packages containing dangerous goods, cargo transport units and any other goods within a shipborne barge shall be adequately braced and secured for the voyage. Packages shall be loaded in such a way that there will be a minimum likelihood of damage to them and to any fittings during transport. Fittings on packages or portable tanks shall be adequately protected.
- 7.7.3.3 Certain dry dangerous goods may be transported in bulk in shipborne barges; this is indicated by the Code "BK2" in column 13 of the Dangerous Goods List. Where such solid bulk materials possessing chemical hazards are transported in shipborne barges, it shall be ensured that at all times the cargo is evenly distributed, properly trimmed and secured.
- 7.7.3.4 Shipborne barges into which packaged dangerous goods or solid bulk materials possessing chemical hazards are to be loaded shall be examined visually for hull or hatch cover damage which could impair watertight integrity. If there is evidence of such damage, the shipborne barge may not be used for the transport of packaged dangerous goods or solid bulk materials possessing chemical hazards and shall not be loaded.
- 7.7.3.5 Dangerous goods which have to be segregated from each other according to the provisions in chapter 7.2 shall not be transported in the same barge with the exception of dangerous goods which shall be segregated "away from" each other which may be transported in the same barge with the approval of the competent authority. In such cases an equivalent standard of safety shall be maintained.
- 7.7.3.6 Dangerous goods having a primary or subsidiary hazard of classes 2.3, 6.1, 6.2, 7 (with the exception of UN 2908, 2909, 2910 and 2911), 8 and dangerous goods having a reference to 7.7.3.6 in column 16b of the Dangerous Goods List shall not be transported together with foodstuffs (see 1.2.1) in the same barge.
- 7.7.3.7 Notwithstanding the provisions in 7.7.3.6, the following dangerous goods may be transported with foodstuffs in the same barge provided that they are not loaded within 3 m from foodstuffs:
- .1 dangerous goods of packing group III of classes 6.1 and 8;
  - .2 dangerous goods of packing group II of class 8;
  - .3 any other dangerous goods of packing group III with a subsidiary hazard of classes 6.1 or 8; and
  - .4 dangerous goods having a reference to 7.7.3.7 in column 16b of the Dangerous Goods List.

**7.7.3.8** Shipborne barges containing a residue of a dangerous cargo or shipborne barges loaded with empty packagings still containing a residue of a dangerous substance shall comply with the same provisions as barges loaded with the substance itself.

**7.7.3.9 Stowage of dangerous goods in flexible bulk containers**

**7.7.3.9.1** Flexible bulk containers shall be stowed in the barge in such a way that there are no void spaces between the flexible bulk containers in the barge. If the flexible bulk containers do not completely fill the barge, adequate measures shall be taken to avoid shifting of cargo.

**7.7.3.9.2** The maximum permissible height of the stack of the flexible bulk containers shall never exceed three high.

**7.7.3.9.3** When flexible bulk containers are fitted with venting devices, the stowage of the flexible bulk containers in their barge shall not impede their function.

**7.7.4 Stowage of shipborne barges**

**7.7.4.1** Stowage of shipborne barges carrying packaged dangerous goods or solid bulk materials possessing chemical hazards aboard barge-carrying ships shall be as required for the substance in chapter 7.1 and in column 16a of the Dangerous Goods List. When a shipborne barge is loaded with more than one substance, and the stowage locations differ for the substances (i.e. some substances require *on deck* stowage while other substances require *under deck* stowage), the shipborne barge containing these substances shall be stowed on deck.

**7.7.4.2** Provision shall be made to ensure that shipborne barges stowed under deck and loaded with cargoes requiring ventilation because of their dangerous nature are ventilated to the extent necessary.

**7.7.4.3** Where it is required that a dangerous good shall be protected from sources of heat, this provision shall be applied to the shipborne barge as a whole, unless suitable alternative measures are provided.

**7.7.4.4** When packaged dangerous goods or solid bulk materials possessing chemical hazards are loaded in shipborne barges aboard barge-carrying ships having the capability of providing fixed fire-fighting systems or fire-detection systems to individual barges, care shall be taken to ensure that these systems are attached to the shipborne barge and operating properly.

**7.7.4.5** When packaged dangerous goods or solid bulk materials possessing chemical hazards are loaded in shipborne barges aboard barge-carrying ships having fixed fire-fighting systems or fire-detection systems installed in individual barge holds, care shall be taken to ensure that the ventilation closures on the shipborne barges are open, to permit the fire fighting medium to enter the barges in case of fire.

**7.7.4.6** When ventilation ducts are provided to individual shipborne barges, the ventilation fans shall be secured when fire-fighting medium is introduced into the hold to permit the medium to enter the shipborne barges.

**7.7.5 Segregation between barges on board barge-carrying ships**

**7.7.5.1** For barge-carrying ships which incorporate other cargo spaces or any other method of stowage, the appropriate chapter shall apply to the relevant cargo space.

**7.7.5.2** When a shipborne barge is loaded with two or more substances with different provisions for segregation, the most stringent segregation applicable shall be applied.

**7.7.5.3** “Away from” and “separated from” require no segregation between shipborne barges.

**7.7.5.4** “Separated by a complete compartment or hold from” means, for barge-carrying ships with vertical holds, that separate holds are required. On barge-carrying ships having horizontal barge levels, separate barge levels are required and the barges shall not be in the same vertical line.

**7.7.5.5** “Separated longitudinally by an intervening complete compartment or hold from” means, for barge-carrying ships with vertical holds, that separation by an intervening hold or engine room is required. On barge-carrying ships having horizontal barge levels, separate barge levels and a longitudinal separation by at least two intervening barge spaces is required.

## Chapter 7.8

### *Special requirements in the event of an incident and fire precautions involving dangerous goods*

**Note:** The provisions of this chapter are not mandatory.

#### **7.8.1 General**

- 7.8.1.1 In the event of an incident involving dangerous goods, detailed recommendations are contained in *The EmS Guide: Revised Emergency Response Procedures for Ships Carrying Dangerous Goods*.
- 7.8.1.2 In the event of personnel exposure during an incident involving dangerous goods, detailed recommendations are contained in *Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)*.
- 7.8.1.3 In the event that a package containing dangerous goods is found to be suffering from breakage or leakage while the ship is in port, the port authorities should be informed and appropriate procedures should be followed.

#### **7.8.2 General provisions in the event of incidents**

- 7.8.2.1 Recommendations on emergency action may differ depending on whether or not the goods are stowed on deck or under deck or whether a substance is gaseous, liquid or solid. When dealing with incidents involving flammable gases, or flammable liquids with a flashpoint of 60°C closed-cup (c.c.) or below, all sources of ignition (such as naked lights, unprotected light bulbs, electric handtools) should be avoided.
- 7.8.2.2 In general, the recommendation is to wash spillages on deck overboard with copious quantities of water and, where there is likely to be a dangerous reaction with water, from as far away as practicable. Disposal of spilt dangerous goods overboard is a matter for judgement by the master, bearing in mind that the safety of the crew has priority over pollution of the sea. If it is safe to do so, spillages and leakages of substances, articles and materials identified in this Code as MARINE POLLUTANT should be collected for safe disposal. Inert absorbent material should be used for liquids.
- 7.8.2.3 Toxic, corrosive and/or flammable vapours in under deck cargo spaces should, where possible, be dispersed before undertaking any emergency action. Where a mechanical ventilation system is used, care will be necessary to ensure that flammable vapours are not ignited.
- 7.8.2.4 If there is any reason to suspect leakage of these substances, entry into a hold or cargo space should not be permitted until the master or responsible officer has taken all safety considerations into account and is satisfied that it is safe to do so.
- 7.8.2.5 Emergency entry into the hold under other circumstances should only be undertaken by trained crew wearing self-contained breathing apparatus and other protective clothing.
- 7.3.2.6 A careful inspection for structural damage should be carried out after dealing with spillages of substances corrosive to steel and cryogenic liquids.

#### **7.8.3 Special provisions for incidents involving infectious substances**

- 7.8.3.1 If any person responsible for the transport or opening of packages containing infectious substances becomes aware of damage to or leakage from such packages, he should:
  - .1 avoid handling the package or keep handling to a minimum;
  - .2 inspect adjacent packages for contamination and put aside any that have been contaminated;
  - .3 inform the appropriate public health authority or veterinary authority, and provide information on any other countries of transit where persons may have been exposed to danger; and
  - .4 notify the consignor and/or the consignee.



**7.8.3.2 Decontamination**

A cargo transport unit, a bulk container or a cargo space of a ship, which has been used to transport infectious substances, shall be inspected for release of the substance before re-use. If infectious substances were released during transport, the cargo transport unit, the bulk container or the cargo space of a ship shall be decontaminated before it is re-used. Decontamination may be achieved by any means which effectively inactivates the infectious substance released.

**7.8.4 Special provisions for incidents involving radioactive material**

**7.8.4.1** If it is evident that a package is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package should be restricted and a qualified person should, as soon as possible, assess the extent of contamination and the resultant dose rate of the package. The scope of the assessment should include the package, the conveyance, the adjacent loading and unloading areas, and, if necessary, all other material which has been transported in the conveyance. When necessary, additional steps for the protection of persons, property and the environment, in accordance with provisions established by the relevant competent authority, should be taken to overcome and minimize the consequences of such leakage or damage.

**7.8.4.2** Packages damaged or leaking radioactive contents in excess of allowable limits for normal conditions of transport may be removed to an acceptable interim location under supervision, but should not be forwarded until repaired or reconditioned and decontaminated.

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

**7.8.4.4** Attention is drawn to the latest versions of both *The EmS Guide: Revised Emergency Response Procedures for Ships Carrying Dangerous Goods* and the *Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG)*.

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

**7.8.4.6** In the event of a package containing radioactive material suffering from breakage or leakage while the ship is in port, the port authorities should be informed and advice obtained from them or from the competent authority.\* Procedures have been drawn up in many countries for summoning radiological assistance in any such emergency.

**7.8.5 General fire precautions**

**7.8.5.1** The prevention of fire in a cargo of dangerous goods is achieved by practising good seamanship, observing in particular the following precautions:

- .1 keep combustible material away from ignition sources;
- .2 protect a flammable substance by adequate packing;
- .3 reject damaged or leaking packages;
- .4 stow packages protected from accidental damage or heating;
- .5 segregate packages from substances liable to start or spread fire;
- .6 where appropriate and practicable, stow dangerous goods in an accessible position so that packages in the vicinity of a fire may be protected;

\* Reference is made to chapter 7.9 and the IAEA list of national competent authorities responsible for approvals and authorizations in respect of the transport of radioactive material. The list is updated annually.

**Part 7 – Provisions concerning transport operations**

- .7 enforce prohibition of smoking in dangerous areas and display clearly recognizable “NO SMOKING” notices or signs; and
- .8 the dangers from short-circuits, earth leakages or sparking will be apparent. Lighting and power cables and fittings should be maintained in good condition. Cables or equipment found to be unsafe should be disconnected. Where a bulkhead is required to be suitable for segregation purposes, cables and conduit penetrations of the decks and bulkheads should be sealed against the passage of gas and vapours.

When stowing dangerous goods on deck, the position and design of auxiliary machinery, electrical equipment and cable runs should be considered in order to avoid sources of ignition.

- 7.8.5.2 Fire precautions applying to individual classes, and where necessary to individual substances, are recommended in 7.8.2 and 7.8.6 to 7.8.9 and in the Dangerous Goods List.

**7.8.6 Special fire precautions for class 1**

- 7.8.6.1 The greatest risk in the handling and transport of goods of class 1 is that of fire from a source external to the goods, and it is vital that any fire should be detected and extinguished before it can reach such goods. Consequently, it is essential that fire precautions, fire-fighting measures and equipment are of a high standard and ready for immediate application and use.
- 7.8.6.2 Compartments containing goods of class 1 and adjacent cargo spaces should be provided with a fire-detection system. If such spaces are not protected by a fixed fire-extinguishing system, they should be accessible for fire-fighting operations.
- 7.8.6.3 No repair work should be carried out in a compartment containing goods of class 1. Special care should be exercised in carrying out repairs in any adjacent space. No welding, burning, cutting, or riveting operations involving the use of fire, flame, spark, or arc-producing equipment should be carried out in any space other than machinery spaces and workshops where fire-extinguishing arrangements are available, except in any emergency and, if in port, with prior authorization of the port authority.

**7.8.7 Special fire precautions for class 2**

- 7.8.7.1 Effective ventilation should be provided to remove any leakage of gas from within the cargo space or spaces, bearing in mind that some gases are heavier than air and may accumulate in dangerous concentrations in the lower part of the ship.
- 7.8.7.2 Measures should be taken to prevent leaking gases from penetrating into any other part of the ship.
- 7.8.7.3 If there is any reason to suspect leakage of a gas, entry into cargo spaces or other enclosed spaces should not be permitted until the master or responsible officer has taken all safety considerations into account and is satisfied that it is safe to do so. Emergency entry under other circumstances should only be undertaken by trained crew wearing self-contained breathing apparatus, and protective clothing when recommended, and always under the supervision of a responsible officer.
- 7.8.7.4 Leakage from pressure receptacles containing flammable gases may give rise to explosive mixtures with air. Such mixtures, if ignited, may result in explosion and fire.

**7.8.8 Special fire precautions for class 3**

- 7.8.8.1 Flammable liquids give off flammable vapours which, especially in an enclosed space, form explosive mixtures with air. Such vapours, if ignited, may cause a “flashback” to the place in which the substances are stowed. Due regard should be paid to the provision of adequate ventilation to prevent accumulation of vapours.

**7.8.9 Special fire precautions and fire fighting for class 7**

- 7.8.9.1 The radioactive contents of Excepted, Industrial, and Type A packages are so restricted that, in the event of an accident and damage to the package, there is a high probability that any material released, or shielding efficiency lost, would not give rise to such radiological hazard as to hamper fire-fighting or rescue operations.
- 7.8.9.2 Type B(U) packages, Type B(M) packages and Type C packages are designed to be strong enough to withstand severe fire without significant loss of contents or dangerous loss of radiation shielding.

## Chapter 7.9

### *Exemptions, approvals and certificates*

#### 7.9.1 Exemptions

**Note 1** The provisions of this section do not apply to exemptions mentioned in chapters 1 to 7.8 of this Code and to approvals (including permits, authorizations or agreements) and certificates which are referred to in chapters 1 to 7.8 of this Code. For the said approvals and certificates, see 7.9.2.

**Note 2** The provisions of this section do not apply to class 7. For consignments of radioactive material for which conformity with any provision of this Code applicable to class 7 is impracticable, refer to 1.5.4.

**7.9.1.1** Where this Code requires that a particular provision for the transport of dangerous goods shall be complied with, a competent authority or competent authorities (port State of departure, port State of arrival or flag State) may authorize any other provision by exemption if satisfied that such provision is at least as effective and safe as that required by this Code. Acceptance of an exemption authorized under this section by a competent authority not party to it is subject to the discretion of that competent authority. Accordingly, prior to any shipment covered by the exemption, the recipient of the exemption shall notify other competent authorities concerned.

**7.9.1.2** Competent authority or competent authorities which have taken the initiative with respect to the exemption:

- .1 shall send a copy of such exemption to the International Maritime Organization which shall bring it to the attention of the Contracting Parties to SOLAS and/or MARPOL, as appropriate, and
- .2 if appropriate, take action to amend the IMDG Code to include the provisions covered by the exemption.

**7.9.1.3** The period of validity of the exemption shall be not more than five years from the date of authorization. An exemption that is not covered under 7.9.1.2.2 may be renewed in accordance with the provisions of this section.

**7.9.1.4** A copy of the exemption shall accompany each consignment when offered to the carrier for transport under the terms of the exemption. A copy of the exemption or an electronic copy thereof shall be maintained on board each ship transporting dangerous goods in accordance with the exemption, as appropriate.

#### 7.9.2 Approvals (including permits, authorizations or agreements) and certificates

**7.9.2.1** Approvals, including permits, authorizations or agreements, and certificates referred to in chapters 1 to 7.8 of this Code and issued by the competent authority (authorities when the Code requires a multilateral approval) or a body authorized by that competent authority (e.g. approvals for alternative packaging in 4.1.3.7, approval for segregation as in 7.3.4.1 or certificates for portable tanks in 6.7.2.18.1) shall be recognized, as appropriate:

- .1 by other contracting parties to SOLAS if they comply with the requirements of the *International Convention for the Safety of Life at Sea, 1974* (SOLAS), as amended; and/or
- .2 by other contracting parties to MARPOL if they comply with the requirements of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL, Annex III), as amended.

#### 7.9.3 Contact information for the main designated national competent authorities

Contact information for the main designated national competent authorities concerned is given in this paragraph.\* Corrections to these addresses should be sent to the Organization.†

\* Reference is made to MSC.1/Circ.1563, and its corrigenda, as may be amended, which provides a more comprehensive listing of contact information for competent authorities and bodies.

† International Maritime Organization  
4 Albert Embankment  
London SE1 7SR  
United Kingdom  
Email: info@imo.org  
Fax: +44 20 7587 3210

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
<b>ALGERIA</b>	Ministère des Transports Direction de la Marine marchande et des Ports 1, Chemin Ibn Badis El Mouiz (ex Poirson) El Biar – Alger ALGÉRIE Telephone: +213 219 29881 +213 219 20931 Fax: +213 219 23046 +213 219 29894 Email: benyelles@ministere-transports.gov.dz
<b>AMERICAN SAMOA</b>	Silila Patane Harbour Master Port Administration Pago Pago American Samoa AMERICAN SAMOA 96799
<b>ANGOLA</b>	National Director Marine Safety, Shipping and Ports National Directorate of Merchant Marine and Ports Rua Rainha Ginga 74, 4° Andar Luanda ANGOLA Telephone: +244 2 39 0034 +244 2 39 7984 Fax: +244 2 31 037 Mobile: +244 9243 9336 Email: ispscode_angola@snet.co.ao
<b>ARGENTINA</b>	Prefectura Naval Argentina (Argentine Coast Guard) Dirección de protección ambiental Departamento de protección ambiental y mercancías peligrosas División mercancías y residuos peligrosos Avda. Eduardo Madero 235 4° piso, Oficina 4.36 y 4.37 Buenos Aires (C1106ACC) REPÚBLICA ARGENTINA Telephone: +54 11 4318 7669 Fax: +54 11 4318 7474 Email: dpma-mp@prefectura naval.gov.ar
<b>AUSTRALIA</b>	Manager – Ship Inspection and Registration Ship Safety Division Australian Maritime Safety Authority GPO Box 2181 Canberra ACT 2601 AUSTRALIA Telephone: +61 2 6279 5048 Fax: +61 2 6279 5058 Email: psc@amsa.gov.au Website: www.amsa.gov.au
<b>AUSTRIA</b>	Federal Ministry for Transport, Innovation and Technology Transport of Dangerous Goods and Safe Containers Radetzkystraße 2 A-1030 Wien AUSTRIA Telephone: +43 1 71162 65 5771 Fax: +43 1 71162 65 5725 Email: st6@bmvit.gv.at Website: www.bmvit.gv.at

Country	Contact information for the main designated national competent authority
<b>AZERBAIJAN</b>	Ministry of Emergency Situations of the Republic of Azerbaijan State Agency for Safe Working in Industry and Mountain-Mine Control 26 Najafgulu Rafiyev Street Baku Khatai Region AZ 1025 AZERBAIJAN Telephone: +994 12 512 1501 Fax: +994 12 512 2501 Email: dag-meden@fhn.gov.az
<b>BAHAMAS</b>	Bahamas Maritime Authority 120 Old Broad Street London, EC2N 1AR UNITED KINGDOM Telephone: +44 20 7562 1300 Fax: +44 20 7614 0650 Email: tech@bahamasmaritime.com Website: www.bahamasmaritime.com
<b>BANGLADESH</b>	Department of Shipping 141-143, Motijheel Commercial Area BIWTA Bhaban (8th Floor) Dhaka-1000 BANGLADESH Telephone: +880 2 9555128 Fax: +880 2 7168363 Email: dosdgdbd@bttb.net.bd
<b>BARBADOS</b>	Director of Maritime Affairs Ministry of Tourism and International Transport 2nd Floor, Carlisle House Hincks Street Bridgetown St. Michael BARBADOS Telephone: +1 246 426 2710 +1 246 426 3342 Fax: +1 246 426 7882 Email: ctech@sunbeach.net
<b>BELGIUM</b>	<i>Antwerp office</i> Federale Overheidsdienst Mobiliteit en Vervoer Directoraat-generaal Maritiem Vervoer Scheepvaartcontrole Posthoflei 3 B-2000 Antwerpen (Berchem) BELGIUM Telephone: +32 3 229 0030 Fax: +32 3 229 0031 Email: HAZMAT.MAR@mobilit.fgov.be  <i>Ostend office</i> Federale Overheidsdienst Mobiliteit en Vervoer Directoraat-generaal Maritiem Vervoer Scheepvaartcontrole Natiënkaai 5 B-8400 Oostende BELGIUM Telephone: +32 59 56 1450 Fax: +32 59 56 1474 Email: HAZMAT.MAR@mobilit.fgov.be

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Country	Contact information for the main designated national competent authority
<b>BELIZE</b>	<p>Ports Commissioner/Harbour Master 120 Corner North Front and Pickstock Street Belize City BELIZE</p> <p>Telephone: +501 223 0752 +501 223 0762 +501 223 0743</p> <p>Fax: +501 223 0433</p> <p>Website: www.portauthority.bz</p>
<b>BRAZIL</b>	<p>Diretoria de Portos e Costas (DPC-20) Rua Teófilo Otoni No. 04 Centro Rio de Janeiro CEP 20090-070 BRAZIL</p> <p>Telephone: +55 21 2104 5203</p> <p>Fax: +55 21 2104 5202</p> <p>Email: secom@dpc.mar.mil.br</p>
<b>BULGARIA</b>	<p><i>Head office</i> Captain Petar Petrov, Director Directorate “Quality Management” Bulgarian Maritime Administration 9 Dyakon Ignatii Str. Sofia 1000 REPUBLIC OF BULGARIA</p> <p>Telephone: +359 2 93 00 910 +359 2 93 00 912</p> <p>Fax: +359 2 93 00 920</p> <p>Email: bma@marad.bg petrov@marad.bg</p> <p><i>Regional offices</i> Harbour Master Directorate “Maritime Administration” – Bourgas 3 Kniaz Alexander Batemberg Str. Bourgas 8000 REPUBLIC OF BULGARIA</p> <p>Telephone: +359 56 875 775</p> <p>Fax: +359 56 840 064</p> <p>Email: hm_bs@marad.bg</p> <p>Harbour Master Directorate “Maritime Administration” – Varna 5 Primorski Bvd Varna 9000 REPUBLIC OF BULGARIA</p> <p>Telephone: +359 52 684 922</p> <p>Fax: +359 52 602 378</p> <p>Email: hm_vn@marad.bg</p>

Country	Contact information for the main designated national competent authority
<b>BURUNDI</b>	Minister Ministère des Transports, Postes et Télécommunications B.P. 2000 Bujumbura BURUNDI Telephone: +257 219 324 Fax: +257 217 773
<b>CABO VERDE</b>	The Director General Ministry of Infrastructure and Transport St. Vincente CABO VERDE Telephone: +238 2 328 199 +238 2 585 4643 Email: dgmp@cvtelecom.cv
<b>CANADA</b>	The Chairman Marine Technical Review Board Contact: Director, Operations and Environmental Programs Marine Safety, Transport Canada Tower C, Place de Ville 330 Sparks Street, 10th Floor Ottawa, Ontario K1A 0N5 CANADA Telephone: +1 613 991 3132 +1 613 991 3143 +1 613 991 3139 +1 613 991 3140 Fax: +1 613 993 8196  <i>Packaging approvals</i> Director, Regulatory Affairs Transport Dangerous Goods Directorate Tower C, Place de Ville 330 Sparks Street, 9th Floor Ottawa, Ontario K1A 0N5 CANADA Telephone: +1 613 998 0519 +1 613 990 1163 +1 613 993 5266 Fax: +1 613 993 5925
<b>CHILE</b>	Dirección General del Territorio Marítimo y de Marina Mercante Dirección de Seguridad y Operaciones Marítimas Servicio de Inspecciones Marítimas División Prevención de Riesgos y Cargas Peligrosas Subida Cementerio No.300 Valparaíso CHILE Telephone: +56 32 220 8699 +56 32 220 8654 +56 32 220 8692 Email: cargaspeligrosas@directemar.cl
<b>CHINA</b>	Maritime Safety Administration People's Republic of China 11 Jianguomen Nei Avenue Beijing 100736 CHINA Telephone: +86 10 6529 2588 +86 10 6529 2218 Fax: +86 10 6529 2245 Telex: 222258 CMSAR CN



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Country	Contact information for the main designated national competent authority
COMOROS	Ministre d'État Ministère du développement, des infrastructures, des postes et des télécommunications et des transports internationaux Moroni UNION DES COMORES Telephone: +269 744 287 +269 735 794 Fax: +269 734 241 +269 834 241 Mobile: +269 340 248 Email: houmedms@yahoo.fr
CROATIA	Ministry of Maritime Affairs, Transport and Infrastructure Marine Safety Directorate MRCC Rijeka Senjsko pristanište 3 51000 Rijeka REPUBLIC OF CROATIA Telephone: +385 51 195 +385 51 312 301 Fax: +385 51 312 254 Email: mrcc@pomorstvo.hr  <i>Testing and certification of packagings</i> Cargo Superintendence and Testing Services Adriainspekt Ciottina 17/b 51000 Rijeka REPUBLIC OF CROATIA Telephone: +385 51 356 080 Fax: +385 51 356 090 Email: ai@adriainspekt.hr Website: www.adriainspekt.hr  <i>Classification society for CSC containers (including IMO tanks)</i> Croatian Register of Shipping Marasovićeve 67 21000 Split REPUBLIC OF CROATIA Telephone: +385 21 408 180 Fax: +385 51 356 159 Email: constr@crs.hr
CUBA	Ministerio del Transporte Dirección de Seguridad e Inspección Marítima Boyeros y Tulipán Plaza Ciudad de la Habana CUBA Telephone: +537 881 6607 +537 881 9498 Fax: +537 881 1514 Email: dsim@mitrans.transnet.cu
CYPRUS	Department of Merchant Shipping Ministry of Communications and Works Kylinis Street Mesa Geitonia CY-4007 Lemesos P.O. Box 56193 CY-3305 Lemesos CYPRUS Telephone: +357 5 848 100 Fax: +357 5 848 200 Telex: 2004 MERSHIP CY Email: dms@cytanet.com.cy

Country	Contact information for the main designated national competent authority
CZECHIA	<p><i>Implementation</i></p> <p>Ministry of Transport of the Czechia Navigation Department Nábr. L. Svobody 12 110 15 Praha 1 CZECHIA Telephone: +420 225 131 151 Fax: +420 225 131 110 Email: sekretariat.230@mdcr.cz</p> <p>Český úřad pro zkoušení zbraní a střeliva (Czech office for weapon and ammunition testing) Jilmova 759/12 130 00 Praha 3 CZECHIA Telephone: +420 284 081 831 Email: info@cuzzs.cz rockai@cuzzs.cz</p> <p><i>Examination, testing and assessing functional sustainability of packages or materials used for packaging of dangerous goods</i></p> <p>IMET, s. r. o. Kamýcká 234 160 00 Praha 6 - Sedlec CZECHIA Telephone: +420 220 922 085 +420 603 552 565 Fax: +420 220 921 676 Email: imet@imet.cz</p> <p><i>Classification of dangerous goods of class 1 (explosives) (interim authorization expiring on 20 November 2010)</i></p> <p>Ceskoslovensky Lloyd, spol.s. r.o. (Czechoslovak 184) Vinohradska 184 130 00 Praha 3 Vinohrady CZECHIA Telephone: +420 777 767 +420 777 706 Email: info@cslloyd.cz</p>
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (THE)	<p>Maritime Administration of the Democratic People's Republic of Korea Ryonhwa-2 Dong Central District P.O.Box 416 Pyongyang DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA Telephone: +850 2 18111 ext. 8059 Fax: +850 3 381 4410 Email: mab@silibank.com</p>

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Country	Contact information for the main designated national competent authority
DENMARK	<p>Danish Maritime Authority Carl Jacobsens Vei 31 DK-2500 Valby DENMARK Telephone: +45 72 19 60 00 Fax: +45 72 19 60 01 Email: SFS@dma.dk</p> <p><i>Packing, testing and certification</i> Emballage og Transportinstituttet (E.T.I.) Dansk Teknologisk Institut Gregersensvej 2630 Tåstrup DENMARK</p> <p>Packagings in conformity with the IMDG Code will be marked “DK Eti”</p>
DJIBOUTI	<p>Director of Maritime Affairs Ministère de l'équipement et des transports P.O. Box 59 Djibouti DJIBOUTI Telephone: +253 357 913 Fax: +253 351 538 +253 931 +253 355 879</p>

Country	Contact information for the main designated national competent authority
<b>ECUADOR</b>	<p>Dirección General de la Marina Mercante y del Litoral P.O. Box 7412 Guayaquil Ecuador Telephone: +593 4 526 760 Fax: +593 4 324 246 Telex: 04 3325 DIGMER ED</p> <p>Subsecretaria de puertos y transporte marítimo y fluvial Ing. Ivan Solorzano Villacís Experto en infraestructura portuaria Cdra. Los Ceibos - Av. del Bombero y Leopoldo Carrera - Edif. EP-Petroecuador - 1er piso Guayaquil Guayas ECUADOR Telephone: +59342592080 Email: isolorzano@mtop.gob.ec Website: <a href="http://www.obraspublicas.gob.ec">http://www.obraspublicas.gob.ec</a></p> <p>Subsecretaria de puertos y transporte marítimo y fluvial (SPTMF) Ing. Richard Villacís Jefe de Contaminación Av. del Bombero y Leopoldo Carrera - Cdra. Ceibos. Edif. EP-Petroecuador. 1er piso Guayaquil Guayas ECUADOR Telephone: +59362723008 Email: rvillacis@mtop.gob.ec Website: <a href="https://www.obraspublicas.gob.ec">https://www.obraspublicas.gob.ec</a></p> <p>Superintendencia del Terminal Petrolero de “El Salitral” (SUINSA) CPNV(SP) Raúl Aguirre Baldeón Superintendente Terminal Petrolero de el Salitral Guayaquil ECUADOR Telephone: +59345504901 Fax: +59342504901 Ext. 102 / 109 Email: suinsa_operaciones@mtop.gob.ec suinsa_radio@mtop.gob.ec raguirreb2000@hotmail.com</p> <p>Superintendencia del Terminal Petrolero de la Libertad (SUINLI) CPNV(SP) Roberto Ruiz Johns Superintendente Terminal Petrolero de la Libertad La Libertad Ecuador Telephone: +59342785785 Fax: +59342785781 Email: suinli_operaciones@mtop.gob.ec suinli_radio@mtop.gob.ec rruiz@mtop.gob.ec</p>
<b>EQUATORIAL GUINEA</b>	<p>The Director General (Maritime Affairs) Ministerio de Transportes, Tecnología, Correos y Telecomunicaciones Malabo REPUBLICA DE GUINEA ECUATORIAL Telephone: +240 275 406 Fax: +240 092 618</p>

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Country	Contact information for the main designated national competent authority
<b>ERITREA</b>	<p>Director General  Department of Maritime Transport  Ministry of Transport and Communications  ERITREA</p> <p>Telephone: +291 1 121 317  +291 1 189 156  +291 1 185 251</p> <p>Fax: +291 1 184 690  +291 1 186 541</p> <p>Email: motcrez@eol.com.er</p>
<b>ESTONIA</b>	<p>Estonian Maritime Administration  Maritime Safety Division  Valge 4  EST-11413 Tallinn  ESTONIA</p> <p>Telephone: +372 6205 700  +372 6205 715</p> <p>Fax: +372 6205 706</p> <p>Email: mot@vta.ee</p>
<b>ETHIOPIA</b>	<p>Maritime Affairs Authority  P.O. Box 1B61  Addis Ababa  ETHIOPIA</p> <p>Telephone: +251 11 550 36 83  +251 11 550 36 38</p> <p>Fax: +251 11 550 39 60</p> <p>Mobile: +251 91 151 39 73</p> <p>Email: maritime@ethione.et</p>
<b>FAROEES (THE)</b>	<p>Sjóvinnustýrið  Faroese Maritime Authority  Inni á Støð, P. O. Box 26  FO-375 Miðvágur  FAROE ISLANDS</p> <p>Telephone: +298 35 5 600</p> <p>Fax: +298 35 5 601</p> <p>Email: fma@fma.fo</p> <p>Website: www.fma.fo</p>
<b>FIJI</b>	<p>The Director of Maritime Safety  Fiji Islands Maritime Safety Administration  GPO Box 326  Suva  FIJI</p> <p>Telephone: +679 331 5266</p> <p>Fax: +679 330 3251</p> <p>Email: fimsa@connect.com.fj</p>

Country	Contact information for the main designated national competent authority
<b>FINLAND</b>	<p>Transport Safety Agency Trafi P.O. Box 320 FI-00101 Helsinki FINLAND Telephone: +358 29 534 5000 Fax: +358 29 534 5095 Email: kirjaamo@trafi.fi</p> <p><i>Packaging and certification institute</i> Safety Technology Authority (TUKES) P.O. Box 123 FI-00181 Helsinki FINLAND Telephone: +358 96 1671 Fax: +358 96 1674 66 Email: kirjaamo@tukes.fi</p>
<b>FRANCE</b>	<p>Ministère de la Transition Écologique et Solidaire Adjoint au Chef de la mission transport de matières dangereuses MTES – DGPR – Mission Transport de matières dangereuses (MTMD) 92055 Paris La Défense Cedex FRANCE Telephone: +33 1 40 81 14 96 Fax: +33 1 40 81 86 41 Email: pierre.dufour@developpement-durable.gouv.fr</p> <p><i>Organizations authorized for packagings, large packagings and intermediate bulk containers (IBCs)*</i></p> <ol style="list-style-type: none"> <li>1 Association des contrôleurs indépendants (ACI) 22, rue de l'Est 92100 Boulogne-Billancourt FRANCE</li> <li>2 APAVE 191, rue de Vaugirard 75738 Paris Cedex 15 FRANCE</li> <li>3 Association pour la sécurité des appareils à pression (ASAP) Continental Square – BP 16757 95727 Roissy-Charles de Gaulle Cedex FRANCE</li> <li>4 Bureau de vérifications techniques (BVT) ZAC de la Cerisaie – 31, rue de Montjean 94266 Fresnes Cedex FRANCE</li> <li>5 Bureau Veritas 67-71, rue du Château 92200 Neuilly-sur-Seine FRANCE</li> <li>6 Centre français de l'emballage agréé (CeFEA) 5, rue Janssen 75019 Paris FRANCE</li> <li>7 Laboratoire d'études et de recherches des emballages Métalliques (LEREM) Marches de l'Oise – 100, rue Louis-Blanc 60160 Montataire FRANCE</li> <li>8 Laboratoire national de métrologie et d'essais (LNE) 1, rue Gaston-Boissier 75724 Paris Cedex 15 FRANCE</li> </ol>

\* Contact competent authority for further details of areas of authorization.

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
<b>FRANCE</b> (continued)	<p><i>Organizations authorized for pressure receptacles*</i></p> <ol style="list-style-type: none"> <li>1 Association des contrôleurs indépendants (ACI) (For contact details see above)</li> <li>2 APAVE (For contact details see above)</li> <li>3 Association pour la sécurité des appareils à pression (ASAP) (For contact details see above)</li> <li>4 Bureau Veritas (For contact details see above)</li> </ol> <p><i>Organizations authorized for tanks and multiple-element gas containers (MEGCs)*</i></p> <ol style="list-style-type: none"> <li>1 Association des contrôleurs indépendants (ACI) (For contact details see above)</li> <li>2 APAVE (For contact details see above)</li> <li>3 Bureau Veritas (For contact details see above)</li> </ol> <p><i>Competent authority for issuing agreements for class 7 packages containing radioactive materials:</i>  Autorité de Sûreté Nucléaire (ASN)  15, rue Louis Lejeune  CS 70013  F-92541 Montrouge Cedex  FRANCE  Telephone: +33 1 46 16 41 09  Email: dts-transport@asn.fr</p>
<b>GAMBIA (ISLAMIC REPUBLIC OF)</b>	<p>The Director General  Gambia Port Authority  P.O. Box 617  Banjul  THE GAMBIA  Telephone: +220 4 227 270  +220 4 227 260  +220 4 227 266  Fax: +220 4 227 268</p>
<b>GEORGIA</b>	<p>Maritime Transport Agency  23 Ninoshvili Str.,  6000  Batumi  GEORGIA  Telephone: +995 422 274925  Fax: +995 422 273929  Email: info@mta.gov.ge  Website: www.mta.gov.ge</p> <p>State Ships' Registry and Flag State  Implementation Department: fsi@mta.gov.ge  Seafarers' Department: stcw@mta.gov.ge  Maritime Search and Rescue Centre: mrcc@mta.gov.ge</p>
<b>GERMANY</b>	<p>Federal Ministry of Transport and Digital Infrastructure  Division G 24 – Transport of Dangerous Goods  Robert-Schuman-Platz 1  53175 Bonn  GERMANY  Telephone: +49 228 300-0 or 300-extension  +49 228 300 2551  Fax: +49 228 300 807 2551  Email: ref-g24@bmvi.bund.de</p>

\* Contact competent authority for further details of areas of authorization.



Country	Contact information for the main designated national competent authority
<b>GERMANY</b> (continued)	<p><i>Packing, Testing and Certification Institute:</i>  <i>Federal Institute for Materials Research and Testing</i>            (Bundesanstalt für Materialforschung und -prüfung (BAM))            Unter den Eichen 87            D-12205 Berlin            GERMANY</p> <p>Telephone: +49 30 8104 0 or extension            +49 30 8104 1310            +49 30 8104 3407</p> <p>Fax: +49 30 8104 1227</p> <p>Email: ingo.doering@bam.de</p> <p>Packagings, IBCs, and multimodal tank-containers in conformity with the IMDG Code will be marked as specified in section 6 of annex I to the Code (references are to amendment 29). The markings in accordance with 6.2(f) will be “D/BAM”.</p>
<b>GHANA</b>	<p>The Director General            Ghana Maritime Authority            P.M.B. 34, Ministries Post Office            Ministries – Accra            GHANA</p> <p>Telephone: +233 21 662 122            +233 21 684 392</p> <p>Fax: +233 21 677 702</p> <p>Email: info@ghanamaritime.org</p>
<b>GREECE</b>	<p>Ministry of Mercantile Marine            Safety of Navigation Division            International Relations Department            150 Gr. Lambraki Av.            185 18 Piraeus            GREECE</p> <p>Telephone: +301 4191188</p> <p>Fax: +301 4128150</p> <p>Telex: +212022, 212239 YEN GR</p> <p>Email: dan@yen.gr</p>
<b>GUINEA BISSAU</b>	<p>The Minister            Ministry of Transport &amp; Communication            Av. 3 de Agosto, Bissau            GUINEA BISSAU</p> <p>Telephone: +245 212 583            +245 211 308</p>
<b>GUYANA</b>	<p>Guyana Maritime Authority/Administration            Ministry of Public Works and Communications Building            Top Floor            Fort Street            Kingston            Georgetown            REPUBLIC OF GUYANA</p> <p>Telephone: +592 226 3356            +592 225 7330            +592 226 7842</p> <p>Fax: +592 226 9581</p> <p>Email: MARAD@networksgy.com</p>
<b>ICELAND</b>	<p>Icelandic Transport Authority (ICETRA)            Armuli 2            108 Reykjavik            ICELAND</p> <p>Telephone: +354 480 6000</p> <p>Email: samgongustofa@samgongustofa.is</p>

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
INDIA	<p>The Directorate General of Shipping  Jahz Bhawan  Walchand Hirachand Marg  Bombay 400 001  INDIA  Telephone: +91 22 263651  Telex: +DEGESHIP 2813-BOMBAY</p> <p><i>Packaging, Testing and Certification Institute</i>  Indian Institute of Packaging  Bombay  Madras  Calcutta  INDIA</p>
INDONESIA	<p>Director of Sea and Coast Guard  Directorate General of Sea Transport  Ministry of Transportation of the Republic of Indonesia  INDONESIA  Email: kplp_imdgcode@dephub.go.id  kplp_syahbandar@dephub.go.id</p>
IRAN (ISLAMIC REPUBLIC OF)	<p>Ports and Maritime Organization  PMO. No.1. Shahidi St., Haghani Exp'way, Vanak Sq.  Tehran  ISLAMIC REPUBLIC OF IRAN  Postal Code: 1518663111  Telephone: +98 2184932081  +98 2184932082  Email: info@pmo.ir</p>
IRELAND	<p>The Chief Surveyor  Marine Survey Office  Department of Transport  Leeson Lane  Dublin 2  IRELAND  Telephone: +353 1 604 14 20  Fax: +353 1 604 14 08  Email: mso@transport.ie</p>
ISRAEL	<p>Shipping and Ports Inspectorate  Itzhak Rabin Government Complex  Building 2  Pal-Yam 15a  Haifa 31999  ISRAEL  Telephone: +972 4 8632080  Fax: +972 4 8632118  Email: techni@mot.gov.il</p>
ITALY	<p>Coast Guard Headquarter  Via dell'Arte  16 00100 Rome  ITALY  Telephone: +39 06 5908 4652  +39 06 5908 4267  Fax: +39 06 5908 4630  Email: segreteria.reparto6@mit.gov.it</p>

Country	Contact information for the main designated national competent authority
JAMAICA	<p>The Maritime Authority of Jamaica 4th Floor, Dyll Building 40 Knutsford Boulevard Kingston 5 JAMAICA, W.I. Telephone: +1 876 929 2201 +1 876 754 7260 +1 876 754 7265 Telex: +1 876 7256 Email: maj@jamaicaships.com Website: www.jamaicaships.com</p> <p><i>Testing and certifying authority</i> The Bureau of Standards 6 Winchester Road P.O. Box 113 Kingston JAMAICA Telephone: +1 809 92 63140 7 Telex: 2291 STANBUR Jamaica Cable: STANBUREAU</p>
JAPAN	<p>Inspection and Measurement Division Maritime Bureau Ministry of Land, Infrastructure, Transport and Tourism 2-1-3 Kasumigaseki, Chiyoda-ku Tokyo JAPAN Telephone: +81 3 5253 8639 Telefax: +81 3 5253 1644 Email: hqt-mrb_ksk@gxb.mlit.go.jp</p> <p><i>Packaging, Testing and Certification Institute</i> Nippon Hakuyohin Kentei Kyokai (HK) (The Ship Equipment Inspection Society of Japan) 3-32, Kioi-Cho, Chiyoda-ku Tokyo JAPAN Telephone: +81 3 3261 6611 Fax: +81 3 3261 6979</p> <p>Packagings, IBCs and large packagings in conformity with the IMDG Code will be marked “J”, “J/JG” or “J/HK”</p>
KENYA	<p>Director General Kenya Maritime Authority P.O. Box 95076 (80104) Mombasa KENYA Telephone: +254 041 2318398 +254 041 2318399 Fax: +254 041 2318397 Email: nkarigithu@yahoo.co.uk info@maritimeauthority.co.ke karigithu@ikenya.com</p> <p>Ministry of Transport &amp; Communications P.O. Box 52692 Nairobi KENYA Telephone: +254 020 2729200 Fax: +254 020 2724553 Email: motc@insightkenya.com peterthuo_2004@yahoo.com</p>

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
LATVIA	<p>Maritime Administration of Latvia  Maritime Safety Department  Trijādības iela, 5  LV-1048 Riga  LATVIA  Telephone: +371 670 62 177  +371 670 62 142  Fax: +371 678 60 083  Email: zane.paulovska@lja.lv  lja@lja.lv  Website: www.lja.lv</p> <p><i>Classification Societies</i>  American Bureau of Shipping  Bureau Veritas  Det Norske Veritas  Lloyd's Register of Shipping  Russian Maritime Register of Shipping</p>
LIBERIA	<p>Commissioner/Administration  Bureau of Maritime Affairs  P.O. Box 10-9042  1000 Monrovia 10  Monrovia  LIBERIA  Telephone: +231 227 744/37747/510 201  Fax: +231 226 069  Email: maritime@liberia.net</p> <p><i>Testing and certification</i>  American Bureau of Shipping  Bureau Veritas  China Classification Society  Det Norske Veritas  Germanischer Lloyd  Korean Register of Shipping  Lloyd's Register of Shipping  Nippon Kaiji Kyokai  Polski Rejestr Statkow  Registro Italiano Navale  Russian Maritime Register of Shipping</p>
LITHUANIA	<p><i>Implementation</i>  Ministry of Transport and Communications  Water Transport Department  Gedimino Av. 17  01505 Vilnius  LITHUANIA  Telephone: +370 5 239 3986  Fax: +370 5 212 4335  Email: d.krivickiene@transp.lt</p> <p><i>Inspection</i>  Lithuanian Maritime Safety Administration  J. Janonio Str. 24  92251 Klaipeda  LITHUANIA  Telephone: +370 46 469 662  Fax: +370 46 469 600  Email: alvydas.nikolajus@msa.lt</p>

Country	Contact information for the main designated national competent authority
<b>MADAGASCAR</b>	<p>Director Agence Portuaire Maritime et Fluviale (APMF) P.O. Box 581 Antananarivo – 101 MADAGASCAR Telephone: +261 20 222 5860 Telephone/Fax: +261 20 242 5701 Mobile: +261 320 229 259 Email: spapmf.dt@mttpat.gov.mg</p>
<b>MALAWI</b>	<p>Director of Marine Services Marine Department Ministry of Transport &amp; Civil Aviation Private Bag A81 Capital City Lilongwe MALAWI Telephone: +265 1 755 546 +265 1 752 666 +265 1 753 531 (direct line) Fax: +265 1 750 157 +265 1 758 894 Email: marinedepartment@malawi.net marinesafety@africa-online.net</p>
<b>MALAYSIA</b>	<p>Director Marine Department Peninsular Malaysia P.O. Box 12 42009 Port Kelang Selangor MALAYSIA Telex: MA 39748</p> <p>Director Marine Department, Sabah P.O. Box 5 87007 Labuan Sabah MALAYSIA</p> <p>Director Marine Department, Sarawak P.O. Box 530 93619 Kuching Sarawak MALAYSIA</p>
<b>MARSHALL ISLANDS</b>	<p>Office of the Maritime Administrator Technical Services Republic of the Marshall Islands 11495 Commerce Park Drive Reston, Virginia 20191-1506 UNITED STATES Telephone: +1 703 620 4880 Fax: +1 703 476 8522 Email: technical@register-iri.com</p>

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Country	Contact information for the main designated national competent authority
MAURITIUS	<p>Director of Shipping Ministry of Land Transport, Shipping and Public Safety New Government Centre, 4 Floor Port Louis MAURITIUS</p> <p>Telephone: +230 201 2115 Mobile: +230 774 0764 Fax: +230 211 7699 +230 216 1612 +230 201 3417</p> <p>Email: pseebaluck@mail.gov.mu</p>
MEXICO	<p><i>Stowage, segregation, labelling and documentation of goods</i> Coordinación General de Puertos y Marina Mercante Secretaría de Comunicación y Transportes Boulevard Adolfo López Mateos No. 1990 Col. Los Alpes Tlacopac, Del. Álvaro Obregón, C.P. 01010 México, Distrito Federal MEXICO</p> <p>Telephone: +52 55 57239300 Email: coordgral.cgpmmm@sct.gob.mx Coordinador General: Ruiz de Teresa Guillermo Raúl</p> <p><i>Receipt and processing of notifications in the event of a package falling overboard</i> Secretaría de Marina Eje 2 Oriente, Tramo Heroica Escuela Naval Militar No. 861 Colonia Los Cipreses, C.P. 04830 México, Distrito Federal MEXICO</p> <p>Telephone: +52 55 56246500 (extension: 6388) Email: ayjemg@semar.gob.mx Jefe del Estado Mayor General de la Armada de México: Vicealmirante C.G. DEM Joaquín Zetina Angulo</p> <p><i>Laboratory testing of packagings containing dangerous goods</i> Entidad Mexicana de Acreditación, A.C. Mariano Escobedo, No.564, Col. Nueva Anzures, Delegación Miguel Hidalgo C.P. 11590, Ciudad de México MEXICO</p> <p>Telephone: +52 55 91484300 Email: Maribel.lopez@ema.org.mx Directora Ejecutiva: Mtra. María Isabel López Martínez</p>
MONGOLIA	<p>Maritime Administration of Mongolia Division of Ship Registration and Regulation Government Building 11 Sambuu's street 11 Chingeltei district Ulaanbaatar 211238 MONGOLIA</p> <p>Telephone: 976-51-261490 Telefax: 976-11-310642 Email: info@monmarad.gov.mn operation@mngship.org Website: http://monmarad.gov.mn/</p>

Country	Contact information for the main designated national competent authority
<b>MONTENEGRO</b>	Ministry of Interior and Public Administration of the Republic of Montenegro Department for Contingency Plans and Civil Security REPUBLIC OF MONTENEGRO Telephone: +382 81 241 590 Fax: +382 81 246 779 Email: mup.emergency@cg.yu
<b>MOROCCO</b>	Direction de la Marine Marchande et des Pêches Maritimes Boulevard El Hansali Casablanca MOROCCO Telephone: +1 212 2 278 092 +1 212 2 221 931 Telex: 24613 MARIMAR M 22824
<b>MOZAMBIQUE</b>	General Director National Maritime Authority (INAMAR) Av. Marquês do Pombal No. 297 P.O. Box 4317 Maputo MOZAMBIQUE Telephone: +258 21 320 552 Fax: +258 21 324 007 Mobile: +258 82 153 0280 Email: inamar@tvcabo.co.mz  <i>Testing and certification of packaging, intermediate bulk containers and large packaging</i> Instituto Nacional de Normalização e Qualidade (INNOQ) Av. 25 de Setembro No. 1179, 2º andar Maputo MOZAMBIQUE Telephone: +258 21 303 822 +258 21 303 823 Fax: +258 21 304 206 Mobile: +258 823 228 840 Email: innoq@emilmoz.com
<b>NAMIBIA</b>	Director of Maritime Affairs Ministry of Works, Transport and Communications Private Bag 13341 6719 Bell Street Snyman Circle, Windhoek NAMIBIA Telephone: +264 61 208 8025 +264 61 208 8026 Direct line: +264 61 208 8111 Fax: +264 61 240 024 +264 61 224 060 Mobile: +264 811 220 599 Email: mmnangolo@mwtc.gov.na



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Country	Contact information for the main designated national competent authority
<b>NETHERLANDS</b>	Ministry of Infrastructure and the Environment P.O. Box 20901 2500 EX The Hague NETHERLANDS Telephone: +31 70 456 0000 Email: dangerousgoods@minienm.nl  <i>For competent authority approvals under the IMDG Code:</i> Ministry of Infrastructure and the Environment Human Environment and Transport Inspectorate P.O. Box 90653 2509 LR The Hague NETHERLANDS Telephone: +31 88 489 0000 Fax: +31 70 456 2413 Email: via www.ivw.nl/english/contact
<b>NETHERLANDS ANTILLES</b>	Directorate of Shipping and Maritime Affairs Seru Mahuma z/n Curaçao NETHERLANDS ANTILLES (NETHERLANDS) Telephone: +599 9 839 3700 Fax: +599 9 868 9964 Email: sina@onenet.an expertise@dsmz.org management@dsmz.org
<b>NEW ZEALAND</b>	Maritime New Zealand Level 10 1 Grey Street Wellington PO Box 25620 Wellington 6146 NEW ZEALAND Telephone: +64 4 473 0111 Fax: +64 4 494 1263 Email: enquiries@maritimenz.govt.nz Website: www.maritimenz.govt.nz  The authorized organizations which have delegated authority from the Director of Maritime New Zealand for the approval, inspection and testing of all portable tanks, tank containers and freight containers are: American Bureau of Shipping Bureau Veritas Det Norske Veritas Germanischer Lloyd Lloyd's Register of Shipping
<b>NIGERIA</b>	Nigerian Maritime Administration and Safety Agency (NIMASA) Marine House 4 Burma Road, Apapa PMB 12861, GPO Marina Lagos NIGERIA Telephone: +234 587 2214 +234 580 4800 +234 580 4809 Fax: +234 587 1329 Telex: 23891 NAMARING Website: www.nimasa.gov.ng

Country	Contact information for the main designated national competent authority
<b>NORWAY</b>	<p>Norwegian Maritime Authority Smedasundet 50A N-5528 Haugesund NORWAY Telephone: +47 5274 5000 Fax: +47 5274 5001 Email: postmottak@sjofartsdir.no</p> <p><i>Certification of packaging and IBCs</i> DNV GL A/S Veritasveien 1 N-1322 Høvik NORWAY Telephone: +47 67 57 99 00 Email: moano378@dnvgl.com</p> <p>NET Emballasje-org Produkttesting AS Blekebakkvegen 45 N-3950 Brevik Norway Telephone: +47 951 98 187 Email: info@net17025.com</p> <p><i>Certification of CSC containers</i> DNG GL A/S Veritasveien 1 N-1322 Høvik NORWAY Telephone: +47 67 57 99 00 Email: moano374@dnvgl.com</p> <p>Lloyd's Register EMEA P.O. Box 1562 Vika N-0253 Oslo NORWAY Telephone: +47 2323 9270 Fax: +47 2323 9271 Email: oslo@lr.org</p> <p><i>Certification of IMO tanks</i> DNV GL A/S Veritasveien 1 N-1322 Høvik NORWAY Telephone: +47 67 57 99 00 Email: moano374@gnvgl.com</p>
<b>PAKISTAN</b>	<p>Mercantile Marine Department 70/4 Timber Hard N.M. Reclamation Keamari, Post Box No. 4534 Karachi 75620 PAKISTAN Telephone: +92 21 2851306 +92 21 2851307 Fax: +92 21 4547472 (24 h) +92 21 4547897 Telex: 29822 DGPS PK (24 h)</p>

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Country	Contact information for the main designated national competent authority
PANAMA	<p>Autoridad Marítima de Panamá  Edificio 5534  Diablo Heights  P.O. Box 0816 01548  Panamá  PANAMA  Telephone: +507 501 5000  Fax: +507 501 5007  Email: ampadmon@amp.gob.pa  Website: www.amp.gob.pa</p>
PAPUA NEW GUINEA	<p>First Assistant Secretary  Department of Transport  Division of Marine  P.O. Box 457  Konedobu  PAPUA NEW GUINEA  Telephone: +675 211866  Telex: 22203</p>
PERU	<p>Dirección General de Capitanías y Guardacostas (DICAPI)  Jirón Constitución No.150  Callao  PERU  Telephone: +51 12099300  Anexo: 6757/6792  Email: jefemercanciaspeligrosas@dicapi.mil.pe</p>
PHILIPPINES	<p>Philippine Ports Authority  Port of Manila  Safety Staff  P.O. Box 193  Port Area  Manila 2803  PHILIPPINES  Telephone: +63 2473441 to 49</p>
POLAND	<p>Ministry of Transport, Construction and Maritime Economy  Department of Sea Transport and Shipping Safety  00-928 Warsaw  ul. Chałubińskiego 4/6  POLAND  Telephone: +48 22 630 1639  Fax: +48 22 630 1497</p> <p><i>Packaging, Testing and Certification Institute</i>  Centralny Ośrodek Badawczo-Rozwojowy Opakowań  ul Konstancińska 11  02-942 Warszawa  POLAND  Telephone: +48 22 42 2011  Fax: +48 22 42 2303  Email: info@cobro.org.pl</p> <p>Packagings in conformity with the IMDG Code will be marked “PL”</p>

Country	Contact information for the main designated national competent authority
PORTUGAL	<p><i>Classification societies</i>  For CSC Containers  Polski Rejestr Statków (Polish Register of Shipping)  Al.Gen.J.Hallera 126  80-416 Gdańsk  POLAND  Telephone: +48 58 751 1100  +48 58 751 1204  Fax: +48 58 346 0392  Email: mailbox@prs.pl</p> <p>Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (DGRM)  Avenida Brasília  Lisboa  1449-030  PORTUGAL  Telephone: +351 213 035 700  Telefax: +351 213 035 702  Email: dgrm@dgrm.mm.gov.pt</p>
	<p>REPUBLIC OF KOREA</p> <p>Marine Industry and Technology Division  Marine Safety Bureau  Ministry of Ocean and Fisheries (MOF)  Government Complex Sejong, 5-Dong, 94,  Dasom 2-Ro, Sejong-City,  339-012, REPUBLIC OF KOREA  Telephone: +82 44 200 5836  Fax: +82 44 200 5849</p>

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
<b>RUSSIAN FEDERATION*</b>	<p>Department of State Policy for Maritime and River Transport Ministry of Transport of the Russian Federation Rozhdestvenka Street, 1, bldg. 1 Moscow 109012 RUSSIAN FEDERATION Telephone: +7 499 495 05 50 Fax: +7 499 495 00 00 (ext. 0559) Email: rusma@mintrans.ru</p> <p><i>Organizations authorized for approval, acceptance and all consequential activities related to IMO Type tanks, CSC containers, Intermediate Bulk Containers (IBCs) and packaging:</i></p> <p>Russian Maritime Register of Shipping 8, Dvortsovaya Naberezhnaya, 8 Saint-Petersburg 191186 RUSSIAN FEDERATION Telephone: +7 812 380 20 72 Fax: +7 812 314 10 87 Email: pobox@rs-class.org</p> <p>Central Marine Research and Design Institute (CNIIMF) 6, Kavalergardskaya Street, Saint Petersburg, 191015 RUSSIAN FEDERATION Telephone: +7 812 275 89 45 Email: cniimf@cniimf.ru</p>
<b>SAINT KITTS AND NEVIS</b>	<p>Department of Maritime Affairs Director of Maritime Affairs Ministry of Transport P.O. Box 186 Needsmust ST. KITTS, W.I. Telephone: +869 466 7032 +869 466 4846 Fax: +869 465 0604 +869 465 9475 Email: Maritimeaffairs@yahoo.com</p> <p>St. Kitts and Nevis International Registrar of Shipping and Seamen West Wing, York House 48-50 Western Road Romford RM1 3LP UNITED KINGDOM Telephone: +44 1708 380 400 Fax: +44 1708 380 401 Email: mail@stkittsregistry.net</p>
<b>SAO TOME AND PRINCIPE</b>	<p>The Minister Ministry of Public Works, Infrastructure &amp; Land Planning C.P. 171 SAO TOME AND PRINCIPE Telephone: +239 223 203 +239 226 368 Fax: +239 222 824</p>
<b>SAUDI ARABIA</b>	<p>Port Authority Saudi Arabia Civil Defence Riyadh SAUDI ARABIA Telephone: +966 1 464 9477</p>

\* Except for governmental explosives.

Country	Contact information for the main designated national competent authority
<b>SEYCHELLES</b>	Director General Seychelles Maritime Safety Administration P.O. Box 912 Victoria, Mahe SEYCHELLES Telephone: +248 224 866 Telefax: +248 224 829 Email: dg@msa.sc
<b>SIERRA LEONE</b>	The Executive Director Sierra Leone Maritime Administration Maritime House Government Wharf Ferry Terminal P.O. Box 313 Freetown SIERRA LEONE Telephone: +232 22 221 211 Fax: +232 22 221 215 Email: slma@sierratel.sl slmaoffice@yahoo.com
<b>SINGAPORE</b>	Maritime and Port Authority of Singapore Shipping Division 21st Storey PSA Building 460 Alexandra Road Singapore 119963 Telephone: +65 375 1931 +65 375 6223 +65 375 1600 Fax: +65 375 6231 Email: shipping@mpa.gov.sg
<b>SLOVENIA</b>	Ministry of Infrastructure and Spatial Planning Slovenian Maritime Administration Ukmarjev trg 2 6000 Koper SLOVENIA Telephone: +386 566 32 100 +386 566 32 106 Fax: +386 566 32 102 Email: ursp.box@gov.si

## Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
<b>SOUTH AFRICA</b>	<p>South African Maritime Safety Authority  P.O. Box 13186  Hatfield  0028 Pretoria  SOUTH AFRICA  Telephone: +27 12 342 3049  Fax: +27 12 342 3160</p> <p>South African Maritime Safety Authority  Hatfield Gardens, Block E (Ground Floor)  Corner Arcadia and Grosvenor Street  Hatfield  0083 Pretoria  SOUTH AFRICA</p> <p><i>Head Office Administration</i>  Chief Director  Chief Directorate – Shipping  Department of Transport  Private Bag X193  0001 Pretoria  SOUTH AFRICA  Telephone: +27 12 290 2904  Fax: +27 12 323 7009</p> <p><i>Durban, East London, Port Elizabeth and Richards Bay</i>  Chief Ship Surveyor Eastern Zone  Department of Transport  Marine Division  Private Bag X54309  Durban  SOUTH AFRICA  Telephone: +27 12 3071501  Fax: +27 23 3064983</p> <p><i>Cape Town, Saldanha Bay and Mossel Bay</i>  Chief Ship Surveyor Western Zone  Department of Transport  Marine Division  Private Bag X7025  8012 Roggebaai  SOUTH AFRICA  Telephone: +2721 216 170  Fax: +2721 419 0730</p>
<b>SPAIN</b>	<p>Dirección General de la Marina Mercante  Subdirección General de Seguridad Marítima y Contaminación  c/Ruiz de Alarcón, 1  28071 Madrid  SPAIN  Telephone: +34 91 597 92 69  +34 91 597 92 70  Fax: +34 91 597 92 87  Email: mercancias.peligrosas@fomento.es  pmreal@fomento.es</p> <p>Subdirección General de Calidad y Seguridad Industrial  Ministerio de Industria, Turismo y Comercio  c/Paseo de la Castellana, 160  28071 Madrid  SPAIN  Telephone: +34 91 349 43 03  Fax: +34 91 349 43 00</p>



Country	Contact information for the main designated national competent authority
<b>SUDAN</b>	<p>Director Maritime Administration Directorate Ministry of Transport Port Sudan P.O. Box 531 SUDAN</p> <p>Telephone: +249 311 825 660 +249 012 361 766</p> <p>Fax: +249 311 831 276 +249 183 774 215</p> <p>Email: smaco22@yahoo.com/info@smacosd.com</p>
<b>SWEDEN</b>	<p>Swedish Transport Agency Civil Aviation and Maritime Department Box 653 SE-601 78 Norrköping SWEDEN</p> <p>Telephone: +46 771 503 503</p> <p>Fax: +46 11 239 934</p> <p>Email: sjofart@transportstyrelsen.se</p> <p>Website: www.transportstyrelsen.se</p> <p>SP, Technical Research Institute of Sweden Box 857 SE-501 15 Borås SWEDEN</p> <p>Telephone: +46 10 516 5000</p> <p>Fax: +46 33 135 520</p> <p>Email: info@sp.se</p> <p>Website: www.sp.se</p>
<b>SWITZERLAND</b>	<p>Office suisse de la navigation maritime Elisabethenstrasse 33 4010 Basel SWITZERLAND</p> <p>Telephone: +41 61 270 91 20</p> <p>Fax: +41 61 270 91 29</p> <p>Email: dv-ssa@eda.admin.ch</p>
<b>TANZANIA (UNITED REPUBLIC OF)</b>	<p>Director General Surface &amp; Marine Transport Regulatory Authority (SUMATRA) P.O. Box 3093 Dar es Salaam UNITED REPUBLIC OF TANZANIA</p> <p>Telephone: +255 22 213 5081</p> <p>Mobile: +255 744 781 865</p> <p>Fax: +255 22 211 6697</p> <p>Email: dg@sumatra.or.tz</p> <p>Ministry of Infrastructure Development P.O. Box 9144 Dar es Salaam UNITED REPUBLIC OF TANZANIA</p> <p>Telephone: +255 22 212 2268</p> <p>Fax: +255 22 211 2751 +255 22 212 2079</p> <p>Mobile: +254 748 7404 +254 748 5404</p> <p>Email: brufunjo@yahoo.com</p>

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Country	Contact information for the main designated national competent authority
THAILAND	Ministry of Transport and Communications Ratchadamnoen-Nok Avenue Bangkok 10100 THAILAND Telephone: +66 2 281 3422 Fax: +66 2 280 1714 Telex: 70000 MINOCOM TH
TUNISIA	Ministère du Transport Direction générale de la Marine Marchande Avenue 7 novembre (près de l'aéroport) 2035 Tunis B.P. 179 Tunis Cedex TUNISIA Telephone: +216 71 806 362 Fax: +216 71 806 413
TURKEY	Ministry of Transport, Maritime Affairs and Communications Directorate General for Regulation of Dangerous Goods and Combined Transport GMK Bulvari No: 128A/7 Maltepe/Ankara 06570 TURKEY Telephone: +90 312 232 38 50 +90 312 232 12 49 Fax: +90 312 231 51 89 Email: dangerousgoods@udhb.gov.tr  <i>Packing, Testing and Certification</i> Turkish Standards Institution (TSE) 100. Yıl Bulvarı No:99 Kat:2 Ostim/Ankara TURKEY Telephone: +90 312 592 50 00-5039 Fax: +90 312 592 50 05 Email: oalper@tse.org.tr  Türk Loydu Vakfı İktisadi İşletmesi Tersaneler Caddesi 26, 34944 TURKEY Telephone: +90 216 581 37 00 Telefax: +90 216 581 38 00 Email: info@turkloydu.org

Country	Contact information for the main designated national competent authority
<b>UKRAINE</b>	<p>The Ministry of Infrastructure of Ukraine The Division for Safety on Transport and Technical Regulation Peremohy Ave., 14, Kiev 01135 UKRAINE</p> <p>The authorized person: Ms. Salamatnikova Diana, Chief Specialist of safety and dangerous goods, environmental safety and insurance policies Telephone: +38 044 351 41 93 Email: sd@mtu.gov.ua</p> <p><i>Specialized organization regarding train cargo information for its safe maritime transportation according to item 1:</i> RPE "MORSERVICE" LTD. Preobrazhenska Str. 30, office 2, Odessa 65082 UKRAINE</p> <p>The authorized person: Mrs. Afanasyeva Yevgenia, General Director Telephone: +38 048 784 14 93 Email: morservice@te.net.ua</p> <p><i>Specialized organization regarding train cargo information for its safe maritime transportation according to item 2: carrying out testing of packagings, intermediate bulk containers (IBCs) and large packagings:</i> State Enterprise "Scientific Research and Design Institute of the Maritime Transport of Ukraine" Lanzheronivska Str. 15A, Odessa 65026 UKRAINE</p> <p>The authorized person: Mr. Savinkov Sergii, Director Telephone: +38 048 734 87 28 Email: unii@ukr.net</p>
<b>UNITED ARAB EMIRATES</b>	<p>National Transport Authority Marine Affairs Department P.O. Box 900 Abu Dhabi UNITED ARAB EMIRATES Telephone: +971 2 4182 124 Fax: +971 2 4491 500 Email: marine@nta.gov.ae</p>
<b>UNITED KINGDOM</b>	<p>Maritime and Coastguard Agency Bay 2/21 Spring Place 105 Commercial Road Southampton SO15 1EG UNITED KINGDOM Telephone: +44 23 8032 9100 Fax: +44 23 8032 9204 Email: dangerous.goods@mcga.gov.uk</p>
<b>UNITED KINGDOM (Isle of Man)</b>	<p>Department of Economic Development Mr David Morter Isle of Man Ship Registry St Georges Court Upper Church Street Douglas IM1 1EE ISLE OF MAN (United Kingdom) Telephone: +44 1624 688500 Email: marine.survey@gov.im Website: <a href="http://www.iomshipregistry.com">http://www.iomshipregistry.com</a></p>

Part 7 – Provisions concerning transport operations

Country	Contact information for the main designated national competent authority
<b>UNITED STATES</b>	<p>U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration Office of International Standards East Building /PHH-70 1200 New Jersey Ave S.E. Washington, D.C. 20590 UNITED STATES Telephone: +1 202 366 0656 Email: infocntr@dot.gov</p> <p>Commandant (CG-ENG-5) U.S. Coast Guard, Stop 7509 Attn: Chief, Hazardous Materials Division 2703 Martin Luther King Jr. Ave. SE Washington, D.C. 20593-7509 UNITED STATES Telephone: +1 202 372 1420 Email: hazmatstandards@uscg.mil</p>
<b>URUGUAY</b>	<p>Perfectura Nacional Naval Dirección Registral y de Marina Mercante Edificio Aduana 1er. Piso CP 11.000 Montevideo URUGUAY Telephone: +5982 9157913 +5982 9164914 Fax: +5982 9164914 Email: dirme01@armada.mil.uy dirme_secretario@armada.mil.uy delea@armada.mil.uy</p>
<b>VANUATU</b>	<p>Deputy Commissioner of Maritime Affairs c/o Vanuatu Maritime Services Limited 39 Broadway, Suite 2020 New York, New York 10006 UNITED STATES Telephone: +212 425 9600 Fax: +212 425 9652 Email: email@vanuatuships.com Website: www.vanuatuships.com</p>
<b>VENEZUELA (BOLIVARIAN REPUBLIC OF)</b>	<p>Instituto Nacional de los Espacios Acuáticos Avenida Orinoco entre calles Perijá y Mucuchies Edificio INEA, Piso 6, Las Mercedes Caracas 1060 BOLIVARIAN REPUBLIC OF VENEZUELA Telephone: +58 212 909 1430 +58 212 909 1450 +58 212 909 1587 Fax: +58 212 909 1461 +58 212 909 1573 Email: asuntos_internacionales@inea.gob.ve Website: www.inea.gob.ve</p>

Country	Contact information for the main designated national competent authority
<b>VIET NAM</b>	Shipping and Maritime Services Department Viet Nam Maritime Administration No. 8 Pham Hung Street Hanoi VIET NAM Telephone: +84 4 3768 3065 Fax: +84 4 3768 3058 Email: dichvuvantai@vinamarine.gov.vn Website: www.vinamarine.gov.vn
<b>YEMEN</b>	Executive Chairman Maritime Affairs Authority P.O. Box 19395 Sana'a REPUBLIC OF YEMEN Telephone: +967 1 414 412 +967 1 419 914 +967 1 423 005 Fax: +967 1 414 645 Email: MAA-Headoffice@y.net.ye Website: www.MAA.gov.ye
<b>ZAMBIA</b>	Department of Maritime & Inland Waterways Ministry of Communications & Transport P.O. Box 50346 Fairley Road Lusaka ZAMBIA Telephone: +260 1 250 716 +260 1 251 444 +260 1 251 022 Fax: +260 1 253 165 +260 1 251 795 Email: dmiw@zamtel.zm
<b>Associate Member HONG KONG, CHINA</b>	The Director of Marine Marine Department GPO Box 4155 HONG KONG, CHINA Telephone: +852 2852 3085 Fax: +852 2815 8596 Email: pfdg@mardep.gov.hk

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(part 3, appendices  
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# **PART 3**

DANGEROUS GOODS LIST,  
SPECIAL PROVISIONS AND EXCEPTIONS



## Chapter 3.1

### *General*

#### 3.1.1 Scope and general provisions

- 3.1.1.1 The Dangerous Goods List in chapter 3.2 lists many of the dangerous goods most commonly transported. The list includes entries for specific chemical substances and articles and generic or “not otherwise specified” entries. Since it is not practical to include a separate entry for every chemical substance or article of commercial importance specifically by name, especially names for mixtures and solutions of various chemical constituents and concentrations, the Dangerous Goods List also includes generic or “not otherwise specified” names (e.g. EXTRACTS, FLAVOURING, LIQUID, UN 1197 or FLAMMABLE LIQUID, N.O.S., UN 1993). On this basis, the Dangerous Goods List is intended to include an appropriate name or entry for any dangerous good which may be transported.
- 3.1.1.2 Where a dangerous good is specifically listed by name in the Dangerous Goods List, it shall be transported in accordance with the provisions in the List which are appropriate for that dangerous good. A generic or “not otherwise specified” entry may be used to permit the transport of substances, materials or articles which do not appear specifically by name in the Dangerous Goods List. Such a dangerous good may be transported only after its dangerous properties have been determined. Dangerous goods shall be classified according to the class definitions, tests and criteria. The name which most appropriately describes the dangerous goods shall be used. Only when the specific name of the dangerous goods does not appear in the Dangerous Goods List or the associated primary or subsidiary hazards assigned to it are not appropriate may a generic or “not otherwise specified” name be used. The classification shall be made by the shipper/consignor or by the appropriate competent authority where so specified in the Code. Once the class of the dangerous good has been so established, all conditions for transport, as provided in this Code, shall be met. Any dangerous good having or suspected of having explosive characteristics shall first be considered for inclusion in class 1. Some collective entries may be of the generic or “not otherwise specified” type provided that the Code contains provisions ensuring safety, both by excluding extremely dangerous goods from normal transport and by covering all subsidiary hazards inherent in some goods.
- 3.1.1.3 Inherent instability in goods may take different dangerous forms, for example explosion, polymerization with intense evolution of heat or emission of flammable, toxic, corrosive or asphyxiant gases. The Dangerous Goods List indicates that certain dangerous goods, or dangerous goods in a specific form, concentration or state, are prohibited for transport by sea. This means that the goods specified are not suitable for transport by sea under normal conditions of transport. This does not mean that such goods may not be transported under any circumstances. For most goods, such inherent instability can be controlled by suitable packaging, dilution, stabilization, addition of an inhibitor, temperature control or other measures.
- 3.1.1.4 Where precautionary measures are laid down in the Dangerous Goods List in respect of a given dangerous good (such as that it shall be “stabilized” or “with x% water or phlegmatizer”), such dangerous good may not normally be transported when these measures have not been taken, unless the item in question is listed elsewhere (such as class 1) without any indication of, or with different, precautionary measures.
- 3.1.1.5 Certain substances, by the nature of their chemical composition, tend to polymerize or otherwise react in a dangerous manner under certain conditions of temperature or in contact with a catalyst. Mitigation of this tendency can be carried out either by requiring special transport conditions or by adding adequate amounts of chemical inhibitors or stabilizers to the product. These products shall be sufficiently stabilized to prevent any dangerous reaction during the intended voyage. If this cannot be ensured, the transport of such products is prohibited.
- 3.1.1.6 Where the contents of a portable tank is to be transported heated, the transport temperature is to be maintained during the intended voyage unless it is established that crystallization or solidification on cooling would not result in instability, which can occur with some stabilized or inhibited products.

**3.1.2 Proper shipping names**

**Note 1:** The proper shipping names of the dangerous goods are those listed in chapter 3.2, Dangerous Goods List. Synonyms, secondary names, initials, abbreviations of names, etc. have been included in the Index to facilitate the search for the proper shipping name (see part 5, Consignment procedures).

**Note 2:** For proper shipping names to be used for transport of samples, see 2.0.4. For proper shipping names to be used for transport of wastes, see 5.4.1.4.3.3.

**3.1.2.1** The proper shipping name is that portion of the entry most accurately describing the goods in the Dangerous Goods List, which is shown in upper-case characters (plus any numbers, Greek letters, 'sec', 'tert', and the letters *m*, *n*, *o*, *p*, which form an integral part of the name). An alternative proper shipping name may be shown in brackets following the main proper shipping name (such as ETHANOL (ETHYL ALCOHOL)). Portions of an entry appearing in lower case need not be considered as part of the proper shipping name but may be used.

**3.1.2.2** When a combination of several distinct proper shipping names are listed under a single UN number, and these are separated by "and" or "or" in lower case or are punctuated by commas, only the most appropriate shall be shown in the transport document and package marks.

Examples illustrating the selection of the proper shipping name for such entries are:

.1 UN 1057 LIGHTERS or LIGHTER REFILLS – The proper shipping name is the most appropriate of the following possible combinations:

LIGHTERS

LIGHTER REFILLS;

.2 UN 2583 ALKYL SULPHONIC ACIDS, SOLID or ARYL SULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid – The proper shipping name is the most appropriate of the following:

ALKYL SULPHONIC ACIDS, SOLID

ARYL SULPHONIC ACIDS, SOLID;

.3 UN 2793 FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating. The proper shipping name is the most appropriate of the following combinations:

FERROUS METAL BORINGS

FERROUS METAL SHAVINGS

FERROUS METAL TURNINGS

FERROUS METAL CUTTINGS.

**3.1.2.3** Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name, their sequence on documentation or packages is optional. Commercial or military names for goods of class 1, which contain the proper shipping name supplemented by additional text, may be used.

**3.1.2.4** Many substances have an entry for both the liquid and solid state (see definitions for *liquids* and *solids* in 1.2.1), or for the solid and solution. These are allocated separate UN numbers which are not necessarily adjacent to each other. Details are provided in the alphabetical index, e.g.:

NITROXYLENES, LIQUID – 6.1 1665

NITROXYLENES, SOLID – 6.1 3447.

**3.1.2.5** Where it is not already included, the qualifying word "MOLTEN" shall be added to the proper shipping name when a substance which is solid in accordance with the definition in 1.2.1 is offered for transport in the molten state (such as ALKYLPHENOL, SOLID, N.O.S., MOLTEN). For elevated temperature substances, see 5.4.1.4.3.4.

**3.1.2.6** Except for self-reactive substances and organic peroxides and unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the word STABILIZED shall be added as part of the proper shipping name of the substance which without stabilization would be forbidden from transport in accordance with 1.1.3 due to it being liable to dangerously react under conditions normally encountered in transport (such as TOXIC LIQUID, ORGANIC, N.O.S., STABILIZED). When temperature control is used to stabilize such substances to prevent the development of any dangerous excess pressure, or the evolution of excessive heat, or when chemical stabilization is used in combination with temperature control, then:

.1 For liquids and solids where the SAPT (measured without or with inhibitor, when chemical stabilization is applied) is less than or equal to that prescribed in 2.4.2.5.2, special provision 386 of chapter 3.3 and the provisions of 7.3.7 apply;

.2 Unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the words "TEMPERATURE CONTROLLED" shall be added as part of the proper shipping name;

.3 For gases: the conditions of transport shall be approved by the competent authority.

**3.1.2.7** Hydrates may be transported under the proper shipping name for the anhydrous substance.

**3.1.2.8 Generic or “not otherwise specified” (N.O.S.) entries**

**3.1.2.8.1** Generic and “not otherwise specified” proper shipping names that are assigned to special provision 274 or 318 in column 6 of the Dangerous Goods List shall be supplemented with the technical or chemical group names unless a national law or international convention prohibits its disclosure if it is a controlled substance. For explosives of class 1, the dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names. Technical and chemical group names shall be entered in brackets immediately following the proper shipping name. An appropriate modifier, such as “contains” or “containing” or other qualifying words such as “mixture”, “solution”, etc., and the percentage of the technical constituent may also be used. For example: “UN 1993 Flammable liquid, n.o.s. (contains xylene and benzene), 3, PG II”.

**3.1.2.8.1.1** The technical name shall be a recognized chemical or biological name or other name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose. In the case of pesticides, only ISO common name(s), other name(s) in *The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification*, or the name(s) of the active substance(s) may be used.

**3.1.2.8.1.2** When a mixture of dangerous goods or articles containing dangerous goods are described by one of the “N.O.S.” or “generic” entries to which special provision 274 has been allocated in the Dangerous Goods List, not more than the two constituents which most predominantly contribute to the hazard or hazards of the mixture or of the articles need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary hazard label, one of the two technical names shown in brackets shall be the name of the constituent which compels the use of the subsidiary hazard label.

**3.1.2.8.1.3** Examples illustrating the selection of the proper shipping name supplemented with the technical name of goods for such N.O.S. entries are:

UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S. (drazoxolon)

UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE  
(trimethylgallium).

UN 3540 ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S. (pyrrolidine)

**3.1.2.9 Marine pollutants**

△ **3.1.2.9.1** For the purpose of documentation, the proper shipping name of “not otherwise specified” (N.O.S.) entries which are classified as marine pollutants in accordance with 2.10.3, shall be supplemented with the recognized chemical name of the constituent which most predominantly contributes to the classification as marine pollutant unless otherwise provided by SP274.

△ **3.1.2.9.2** An example illustrating the selection of the proper shipping name supplemented with the recognized technical name of goods for such entries are is indicated below:

UN 1993 FLAMMABLE LIQUID, N.O.S. (propyl acetate, di-*n*-butyltin di-2-ethylhexanoate) class 3 PG III  
(50°C c.c.) MARINE POLLUTANT

**3.1.3 Mixtures or solutions**

**Note:** Where a substance is specifically listed by name in the Dangerous Goods List, it shall be identified in transport by the proper shipping name in the Dangerous Goods List. Such substances may contain technical impurities (for example those deriving from the production process) or additives for stability or other purposes that do not affect their classification. However, a substance listed by name containing technical impurities or additives for stability or other purposes affecting its classification shall be considered a mixture or solution (see 2.0.2.2 and 2.0.2.5).

**3.1.3.1** A mixture or solution is not subject to the provisions of this Code if the characteristics, properties, form or physical state of the mixture or solution are such that it does not meet the criteria, including human experience criteria, for inclusion in any class.

**3.1.3.2** A mixture or solution meeting the classification criteria of this Code composed of a single predominant substance identified by name in the Dangerous Goods List and one or more substances not subject to the provisions of this Code and/or traces of one or more substances identified by name in the Dangerous Goods List, shall be assigned the UN number and proper shipping name of the predominant substance named in the Dangerous Goods List unless:

- .1 the mixture or solution is identified by name in the Dangerous Goods List;
- .2 the name and description of the substance named in the Dangerous Goods List specifically indicate that they apply only to the pure substance;
- .3 the hazard class or division, subsidiary hazard(s), packing group, or physical state of the mixture or solution is different from that of the substance named in the Dangerous Goods List; or

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- 3**
- .4 the hazard characteristics and properties of the mixture or solution necessitate emergency response measures that are different from those required for the substance identified by name in the Dangerous Goods List.
- 3.1.3.3** Qualifying words such as “MIXTURE” or “SOLUTION”, as appropriate, shall be added as part of the proper shipping name, for example, “ACETONE SOLUTION”. In addition, the concentration of the mixture or solution may also be indicated after the basic description of the mixture or solution, for example, “ACETONE 75% SOLUTION”.
- 3.1.3.4** A mixture or solution meeting the classification criteria of this Code that is not identified by name in the Dangerous Goods List and that is composed of two or more dangerous goods shall be assigned to an entry that has the proper shipping name, description, hazard class or division, subsidiary hazard(s) and packing group that most precisely describe the mixture or solution.

**3.1.4 Segregation groups**

- 3.1.4.1** For the purpose of segregation, dangerous goods having certain similar chemical properties have been grouped together in segregation groups, see 7.2.5.
- 3.1.4.2** It is recognized that not all substances, mixtures, solutions or preparations falling within a segregation group are listed in the IMDG Code by name. These are shipped under N.O.S. entries. Although these N.O.S. entries are not themselves listed in the segregation groups (see 3.1.4.4), the consignor shall decide whether inclusion under the segregation group is appropriate and, if so, shall mention that fact in the transport document (see 5.4.1.5.11).
- 3.1.4.3** The segregation groups in this Code do not cover substances which fall outside the classification criteria of the Code. It is recognized that some non-hazardous substances have similar chemical properties as substances listed in the segregation groups. A consignor or the person responsible for packing the goods into a cargo transport unit who does have knowledge of the chemical properties of such non-dangerous goods may decide to implement the segregation provisions of a related segregation group on a voluntary basis.
- 3.1.4.4** The following segregation groups are identified.

**1 Acids (SGG1 or SGG1a)**

- 1052 Hydrogen fluoride, anhydrous\*
- 1182 Ethyl chloroformate
- 1183 Ethyldichlorosilane
- 1238 Methyl chloroformate
- 1242 Methyldichlorosilane
- 1250 Methyltrichlorosilane
- 1295 Trichlorosilane
- 1298 Trimethylchlorosilane
- 1305 Vinyltrichlorosilane
- 1572 Cacodylic acid
- 1595 Dimethyl sulphate
- 1715 Acetic anhydride
- 1716 Acetyl bromide
- 1717 Acetyl chloride
- 1718 Butyl acid phosphate
- 1722 Allyl chloroformate
- 1723 Allyl iodide
- 1724 Allyltrichlorosilane, stabilized
- 1725 Aluminium bromide, anhydrous
- 1726 Aluminium chloride, anhydrous
- 1727 Ammonium hydrogendifluoride, solid
- 1728 Amyltrichlorosilane
- 1729 Anisoyl chloride
- 1730 Antimony pentachloride, liquid
- 1731 Antimony pentachloride solution

1732	Antimony pentafluoride
1733	Antimony trichloride
1736	Benzoyl chloride
1737	Benzyl bromide
1738	Benzyl chloride
1739	Benzyl chloroformate
1740	Hydrogendifluorides, n.o.s.
1742	Boron trifluoride acetic acid complex, liquid
1743	Boron trifluoride propionic acid complex, liquid
1744	Bromine or bromine solution
1745	Bromine pentafluoride
1746	Bromine trifluoride
1747	Butyltrichlorosilane
1750	Chloroacetic acid solution
1751	Chloroacetic acid, solid
1752	Chloroacetyl chloride
1753	Chlorophenyltrichlorosilane
1754	Chlorosulphonic acid (with or without sulphur trioxide)
1755	Chromic acid solution
1756	Chromic fluoride, solid
1757	Chromic fluoride solution
1758	Chromium oxychloride
1762	Cyclohexenyltrichlorosilane
1763	Cyclohexyltrichlorosilane
1764	Dichloroacetic acid
1765	Dichloroacetyl chloride
1766	Dichlorophenyltrichlorosilane
1767	Diethyldichlorosilane
1768	Difluorophosphoric acid, anhydrous
1769	Dipenyldichlorosilane
1770	Diphenylmethyl bromide
1771	Dodecyltrichlorosilane
1773	Ferric chloride, anhydrous
1775	Fluoroboric acid
1776	Fluorophosphoric acid, anhydrous
1777	Fluorosulphonic acid*
1778	Fluorosilicic acid
1779	Formic acid with more than 85% acid by mass
1780	Fumaryl chloride
1781	Hexadecyltrichlorosilane
1782	Hexafluorophosphoric acid
1784	Hexyltrichlorosilane
1786	Hydrofluoric acid and sulphuric acid mixture*
1787	Hydriodic acid*
1788	Hydrobromic acid*
1789	Hydrochloric acid*
1790	Hydrofluoric acid*
1792	Iodine monochloride, solid
1793	Isopropyl acid phosphate
1794	Lead sulphate with more than 3% free acid

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1796	Nitrating acid mixture*
1798	Nitrohydrochloric acid*
1799	Nonyltrichlorosilane
1800	Octadecyltrichlorosilane
1801	Octyltrichlorosilane
1802	Perchloric acid with not more than 50% acid, by mass*
1803	Phenolsulphonic acid, liquid
1804	Phenyltrichlorosilane
1805	Phosphoric acid, solution
1806	Phosphorus pentachloride
1807	Phosphorus pentoxide
1808	Phosphorus tribromide
1809	Phosphorus trichloride
1810	Phosphorus oxychloride
1811	Potassium hydrogendifluoride, solid
1815	Propionyl chloride
1816	Propyltrichlorosilane
1817	Pyrosulphuryl chloride
1818	Silicon tetrachloride
1826	Nitrating acid mixture, spent*
1827	Stannic chloride, anhydrous
1828	Sulphur chlorides
1829	Sulphur trioxide, inhibited or sulphur trioxide, stabilized
1830	Sulphuric acid with more than 51% acid*
1831	Sulphuric acid, fuming*
1832	Sulphuric acid, spent*
1833	Sulphurous acid
1834	Sulphuryl chloride
1836	Thionyl chloride
1837	Thiophosphoryl chloride
1838	Titanium tetrachloride
1839	Trichloroacetic acid
1840	Zinc chloride solution
1848	Propionic acid with not less than 10% and less than 90% acid, by mass
1873	Perchloric acid with more than 50% but not more than 72% acid, by mass*
1898	Acetyl iodide
1902	Diisooctyl acid phosphate
1905	Selenic acid
1906	Sludge acid*
1938	Bromoacetic acid solution
1939	Phosphorus oxybromide
1940	Thioglycolic acid
2031	Nitric acid, other than red fuming*
2032	Nitric acid, red fuming*
2214	Phthalic anhydride with more than 0.05% of maleic anhydride
2215	Maleic anhydride
2218	Acrylic acid, inhibited
2225	Benzenesulphonyl chloride
2226	Benzotrichloride
2240	Chromosulphuric acid*



2262	Dimethylcarbamoyl chloride
2267	Dimethyl thiophosphoryl chloride
2305	Nitrobenzenesulphonic acid
2308	Nitrosylsulphuric acid, liquid*
2331	Zinc chloride, anhydrous
2353	Butyryl chloride
2395	Isobutyryl chloride
2407	Isopropyl chloroformate
2434	Dibenzylchlorosilane
2435	Ethylphenyldichlorosilane
2437	Methylphenyldichlorosilane
2438	Trimethylacetyl chloride
2439	Sodium hydrogendifluoride
2440	Stannic chloride pentahydrate
2442	Trichloroacetyl chloride
2443	Vanadium oxytrichloride
2444	Vanadium tetrachloride
2475	Vanadium trichloride
2495	Iodine pentafluoride
2496	Propionic anhydride
2502	Valeryl chloride
2503	Zirconium tetrachloride
2506	Ammonium hydrogen sulphate
2507	Chloroplatinic acid, solid
2508	Molybdenum pentachloride
2509	Potassium hydrogen sulphate
2511	2-Chloropropionic acid
2513	Bromoacetyl bromide
2531	Methacrylic acid, stabilized
2564	Trichloroacetic acid solution
2571	Alkylsulphuric acids
2576	Phosphorus oxybromide, molten
2577	Phenylacetyl chloride
2578	Phosphorus trioxide
2580	Aluminium bromide solution
2581	Aluminium chloride solution
2582	Ferric chloride solution
2583	Alkylsulphonic acids, solid or arylsulphonic acids, solid with more than 5% free sulphuric acid
2584	Alkylsulphonic acids, liquid or arylsulphonic acids, liquid with more than 5% free sulphuric acid
2585	Alkylsulphonic acids, solid or arylsulphonic acids, solid with not more than 5% free sulphuric acid
2586	Alkylsulphonic acids, liquid or arylsulphonic acids, liquid with not more than 5% free sulphuric acid
2604	Boron trifluoride diethyl etherate
2626	Chloric acid, aqueous solution with not more than 10% chloric acid
2642	Fluoroacetic acid
2670	Cyanuric chloride
2691	Phosphorus pentabromide
2692	Boron tribromide
2698	Tetrahydrophthalic anhydrides with more than 0.05% maleic anhydride
2699	Trifluoroacetic acid

**Part 3 – Dangerous Goods List, special provisions and exceptions**

2739	Butyric anhydride
2740	Propyl chloroformate
2742	Chloroformates, toxic, corrosive, flammable, n.o.s.
2743	<i>n</i> -Butyl chloroformate
2744	Cyclobutyl chloroformate
2745	Chloromethyl chloroformate
2746	Phenyl chloroformate
2748	2-Ethylhexyl chloroformate
2751	Diethylthiophosphoryl chloride
2789	Acetic acid, glacial or acetic acid solution, more than 80% acid, by mass
2790	Acetic acid solution, more than 10% but not more than 80% acid, by mass
2794	Batteries, wet, filled with acid electric storage
2796	Sulphuric acid with not more than 51% acid or battery fluid, acid*
2798	Phenylphosphorus dichloride
2799	Phenylphosphorus thiodichloride
2802	Copper chloride
2817	Ammonium hydrogendifluoride solution
2819	Amyl acid phosphate
2820	Butyric acid
2823	Crotonic acid, solid
2826	Ethyl chlorothioformate
2829	Caproic acid
2834	Phosphorous acid
2851	Boron trifluoride dihydrate
2865	Hydroxylamine sulphate
2869	Titanium trichloride mixture
2879	Selenium oxychloride
2967	Sulphamic acid
2985	Chlorosilanes, flammable, corrosive, n.o.s.
2986	Chlorosilanes, corrosive, flammable, n.o.s.
2987	Chlorosilanes, corrosive, n.o.s.
2988	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.
3246	Methanesulphonyl chloride
3250	Chloroacetic acid, molten
3260	Corrosive solid, acidic, inorganic, n.o.s.
3261	Corrosive solid, acidic, organic, n.o.s.
3264	Corrosive liquid, acidic, inorganic, n.o.s.
3265	Corrosive liquid, acidic, organic, n.o.s.
3277	Chloroformates, toxic, corrosive, n.o.s.
3361	Chlorosilanes, toxic, corrosive, n.o.s.
3362	Chlorosilanes, toxic, corrosive, flammable, n.o.s.
3412	Formic acid with not less than 10% but not more than 85% acid by mass
3412	Formic acid with not less than 5% but not more than 10% acid by mass
3419	Boron trifluoride acetic acid complex, solid
3420	Boron trifluoride propionic acid complex, solid
3421	Potassium hydrogendifluoride solution
3425	Bromoacetic acid, solid
3453	Phosphoric acid, solid
3456	Nitrosylsulphuric acid, solid
3463	Propionic acid with not less than 90% acid by mass

- 3472 Crotonic acid, liquid
- 3498 Iodine monochloride, liquid

\* identifies strong acids

## 2 Ammonium compounds (SGG2)

- 0004 Ammonium picrate dry or wetted with less than 10% water, by mass
- 0222 Ammonium nitrate, with more than 0.2% combustible substances
- 0402 Ammonium perchlorate
- 1310 Ammonium picrate, wetted with not less than 10% water, by mass
- 1439 Ammonium dichromate
- 1442 Ammonium perchlorate
- 1444 Ammonium persulphate
- 1546 Ammonium arsenate
- 1630 Mercury ammonium chloride
- 1727 Ammonium hydrogendifluoride, solid
- 1835 Tetramethylammonium hydroxide solution
- 1843 Ammonium dinitro-*o*-cresolate, solid
- 1942 Ammonium nitrate with not more than 0.2% combustible substances
- 2067 Ammonium nitrate based fertilizer
- 2071 Ammonium nitrate based fertilizer
- 2073 Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia
- 2426 Ammonium nitrate, liquid (hot concentrated solution)
- 2505 Ammonium fluoride
- 2506 Ammonium hydrogen sulphate
- 2683 Ammonium sulphide solution
- 2687 Dicyclohexylammonium nitrite
- 2817 Ammonium hydrogendifluoride solution
- 2818 Ammonium polysulphide solution
- 2854 Ammonium fluorosilicate
- 2859 Ammonium metavanadate
- 2861 Ammonium polyvanadate
- 2863 Sodium ammonium vanadate
- 3375 Ammonium nitrate emulsion or suspension or gel, intermediate for blasting explosives
- 3423 Tetramethylammonium hydroxide, solid
- 3424 Ammonium dinitro-*o*-cresolate solution

## 3 Bromates (SGG3)

- 1450 Bromates, inorganic, n.o.s.
- 1473 Magnesium bromate
- 1484 Potassium bromate
- 1494 Sodium bromate
- 2469 Zinc bromate
- 2719 Barium bromate
- 3213 Bromates, inorganic, aqueous solution, n.o.s.

## 4 Chlorates (SGG4)

- 1445 Barium chlorate, solid
- 1452 Calcium chlorate
- 1458 Chlorate and borate mixture
- 1459 Chlorate and magnesium chloride mixture, solid
- 1461 Chlorates, inorganic, n.o.s.
- 1485 Potassium chlorate

**Part 3 – Dangerous Goods List, special provisions and exceptions**

- 3**
- 1495 Sodium chlorate
  - 1506 Strontium chlorate
  - 1513 Zinc chlorate
  - 2427 Potassium chlorate, aqueous solution
  - 2428 Sodium chlorate, aqueous solution
  - 2429 Calcium chlorate, aqueous solution
  - 2573 Thallium chlorate
  - 2721 Copper chlorate
  - 2723 Magnesium chlorate
  - 3405 Barium chlorate solution
  - 3407 Chlorate and magnesium chloride mixture solution
  - 5 Chlorites (SGG5)**
    - 1453 Calcium chlorite
    - 1462 Chlorites, inorganic, n.o.s.
    - 1496 Sodium chlorite
    - 1908 Chlorite solution
  - 6 Cyanides (SGG6)**
    - 1541 Acetone cyanhydrin, stabilized
    - 1565 Barium cyanide
    - 1575 Calcium cyanide
    - 1587 Copper cyanide
    - 1588 Cyanides, inorganic, solid, n.o.s.
    - 1620 Lead cyanide
    - 1626 Mercuric potassium cyanide
    - 1636 Mercury cyanide
    - 1642 Mercury oxycyanide, desensitized
    - 1653 Nickel cyanide
    - 1679 Potassium cuprocyanide
    - 1680 Potassium cyanide, solid
    - 1684 Silver cyanide
    - 1689 Sodium cyanide, solid
    - 1694 Bromobenzyl cyanides, liquid
    - 1713 Zinc cyanide
    - 1889 Cyanogen bromide
    - 1935 Cyanide solution, n.o.s.
    - 2205 Adiponitrile
    - 2316 Sodium cuprocyanide, solid
    - 2317 Sodium cuprocyanide solution
    - 3413 Potassium cyanide solution
    - 3414 Sodium cyanide solution
    - 3449 Bromobenzyl cyanides, solid
  - 7 Heavy metals and their salts (including their organometallic compounds) (SGG7)**
    - 0129 Lead azide, wetted, with not less than 20% water, or mixture of alcohol and water, by mass
    - 0130 Lead styphnate (lead trinitroresorcinat), wetted with not less than 20% water, or mixture of alcohol and water, by mass
    - 0135 Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass
    - 1347 Silver picrate, wetted with not less than 30% water, by mass
    - 1389 Alkali metal amalgam, liquid
    - 1392 Alkaline earth metal amalgam, liquid

1435	Zinc ashes
1436	Zinc dust or zinc powder
1469	Lead nitrate
1470	Lead perchlorate, solid
1493	Silver nitrate
1513	Zinc chlorate
1514	Zinc nitrate
1515	Zinc permanganate
1516	Zinc peroxide
1587	Copper cyanide
1616	Lead acetate
1617	Lead arsenates
1618	Lead arsenites
1620	Lead cyanide
1623	Mercuric arsenate
1624	Mercuric chloride
1625	Mercuric nitrate
1626	Mercuric potassium cyanide
1627	Mercurous nitrate
1629	Mercury acetate
1630	Mercury ammonium chloride
1631	Mercury benzoate
1634	Mercury bromides
1636	Mercury cyanide
1637	Mercury gluconate
1638	Mercury iodide
1639	Mercury nucleate
1640	Mercury oleate
1641	Mercury oxide
1642	Mercury oxycyanide, desensitized
1643	Mercury potassium iodide
1644	Mercury salicylate
1645	Mercury sulphate
1646	Mercury thiocyanate
1649	Motor fuel anti-knock mixture
1653	Nickel cyanide
1674	Phenylmercuric acetate
1683	Silver arsenite
1684	Silver cyanide
1712	Zinc arsenate and zinc arsenite mixture
1713	Zinc cyanide
1714	Zinc phosphide
1794	Lead sulphate with more than 3% free acid
1838	Titanium tetrachloride
1840	Zinc chloride solution
1872	Lead dioxide
1894	Phenylmercuric hydroxide
1895	Phenylmercuric nitrate
1931	Zinc dithionite
1931	Zinc hydrosulphite

**Part 3 – Dangerous Goods List, special provisions and exceptions****3**

- 2024 Mercury compound, liquid, n.o.s.
- 2025 Mercury compound, solid, n.o.s.
- 2026 Phenylmercuric compound, n.o.s.
- 2291 Lead compound, soluble, n.o.s.
- 2331 Zinc chloride, anhydrous
- 2441 Titanium trichloride, pyrophoric or titanium trichloride mixture, pyrophoric
- 2469 Zinc bromate
- 2546 Titanium powder, dry
- 2714 Zinc resinate
- 2777 Mercury based pesticide, solid, toxic
- 2778 Mercury based pesticide, liquid, flammable, toxic
- 2809 Mercury
- 2855 Zinc fluorosilicate
- 2869 Titanium trichloride mixture
- 2878 Titanium, sponge granules or titanium, sponge powders
- 2881 Metal catalyst, dry
- 2989 Lead phosphite, dibasic
- 3011 Mercury based pesticide, liquid, toxic, flammable
- 3012 Mercury based pesticide, liquid, toxic
- 3089 Metal powder, flammable, n.o.s.
- 3174 Titanium disulphide
- 3181 Metal salts of organic compounds, flammable, n.o.s.
- 3189 Metal powder, self-heating, n.o.s.
- 3401 Alkali metal amalgam, solid
- 3402 Alkaline earth metal amalgam, solid
- 3408 Lead perchlorate solution
- 3483 Motor fuel anti-knock mixture, flammable
- 8 Hypochlorites (SGG8)**
  - 1471 Lithium hypochlorite
  - 1748 Calcium hypochlorite, dry or calcium hypochlorite mixture, dry with more than 39% available chlorine (8.8% available oxygen)
  - 1791 Hypochlorite solution
  - 2208 Calcium hypochlorite mixture, dry with more than 10% but not more than 39% available chlorine
  - 2741 Barium hypochlorite with more than 22% available chlorine
  - 2880 Calcium hypochlorite, hydrated or calcium hypochlorite, hydrated mixture with not less than 5.5% but not more than 16% water
  - 3212 Hypochlorites, inorganic, n.o.s.
  - 3255 *tert*-Butyl hypochlorite
  - 3485 Calcium hypochlorite, dry, corrosive or calcium hypochlorite mixture, dry, corrosive with more than 39% available chlorine (8.8% available oxygen)
  - 3486 Calcium hypochlorite mixture, dry, corrosive with more than 10% but not more than 39% available chlorine
  - 3487 Calcium hypochlorite, hydrated, corrosive or calcium hypochlorite, hydrated mixture, corrosive, with not less than 5.5% but not more than 16% water
- 9 Lead and its compounds (SGG9)**
  - 0129 Lead azide, wetted with not less than 20% water, or mixture of alcohol and water, by mass
  - 0130 Lead styphnate, wetted with not less than 20% water, or mixture of alcohol and water, by mass
  - 0130 Lead trinitroresorcinate, wetted with not less than 20% water, or mixture of alcohol and water, by mass
  - 1469 Lead nitrate

1470	Lead perchlorate, solid
1616	Lead acetate
1617	Lead arsenates
1618	Lead arsenites
1620	Lead cyanide
1649	Motor fuel anti-knock mixture
1794	Lead sulphate with more than 3% free acid
1872	Lead dioxide
2291	Lead compound, soluble, n.o.s.
2989	Lead phosphide, dibasic
3408	Lead perchlorate solution
3483	Motor fuel anti-knock mixture, flammable

**10 Liquid halogenated hydrocarbons (SGG10)**

1099	Allyl bromide
1100	Allyl chloride
1107	Amyl chloride
1126	1-Bromobutane
1127	Chlorobutanes
1134	Chlorobenzene
1150	1,2-Dichloroethylene
1152	Dichloropentanes
1184	Ethylene dichloride
1278	1-Chloropropane
1279	1,2-Dichloropropane
1303	Vinylidene chloride, stabilized
1591	<i>o</i> -Dichlorobenzene
1593	Dichloromethane
1605	Ethylene dibromide
1647	Methyl bromide and ethylene dibromide mixture, liquid
1669	Pentachloroethane
1701	Xylyl bromide
1702	1,1,2,2-Tetrachloroethane
1710	Trichloroethylene
1723	Allyl iodide
1737	Benzyl bromide
1738	Benzyl chloride
1846	Carbon tetrachloride
1887	Bromochloromethane
1888	Chloroform
1891	Ethyl bromide
1897	Tetrachloroethylene
1991	Chloroprene, stabilized
2234	Chlorobenzotrifluorides
2238	Chlorotoluenes
2279	Hexachlorobutadiene
2321	Trichlorobenzenes, liquid
2322	Trichlorobutene
2339	2-Bromobutane
2341	1-Bromo-3-methylbutane
2342	Bromomethylpropanes

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2343	2-Bromopentane
2344	Bromopropanes
2356	2-Chloropropane
2362	1,1-Dichloroethane
2387	Fluorobenzene
2388	Fluorotoluenes
2390	2-Iodobutane
2391	Iodomethylpropanes
2392	Iodopropanes
2456	2-Chloropropene
2504	Tetrabromoethane
2515	Bromoform
2554	Methylallyl chloride
2644	Methyl iodide
2646	Hexachlorocyclopentadiene
2664	Dibromomethane
2688	1-Bromo-3-chloropropane
2831	1,1,1-Trichloroethane
2872	Dibromochloropropanes

**11 Mercury and mercury compounds (SGG11)**

0135	Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass
1389	Alkali metal amalgam, liquid
1392	Alkaline earth metal amalgam, liquid
1623	Mercuric arsenate
1624	Mercuric chloride
1625	Mercuric nitrate
1626	Mercuric potassium cyanide
1627	Mercurous nitrate
1629	Mercury acetate
1630	Mercury ammonium chloride
1631	Mercury benzoate
1634	Mercury bromides
1636	Mercury cyanide
1637	Mercury gluconate
1638	Mercury iodide
1639	Mercury nucleate
1640	Mercury oleate
1641	Mercury oxide
1642	Mercury oxycyanide, desensitized
1643	Mercury potassium iodide
1644	Mercury salicylate
1645	Mercury sulphate
1646	Mercury thiocyanate
1894	Phenylmercuric hydroxide
1895	Phenylmercuric nitrate
2024	Mercury compound, liquid, n.o.s.
2025	Mercury compound, solid, n.o.s.
2026	Phenylmercuric compound, n.o.s.
2777	Mercury based pesticide, solid, toxic



- 2778 Mercury based pesticide, liquid, flammable, toxic
- 2809 Mercury
- 3011 Mercury based pesticide, liquid, toxic, flammable
- 3012 Mercury based pesticide, liquid, toxic
- 3401 Alkali metal amalgam, solid
- 3402 Alkaline earth metal amalgam, solid
- 12 Nitrites and their mixtures (SGG12)**
  - 1487 Potassium nitrate and sodium nitrite mixture
  - 1488 Potassium nitrite
  - 1500 Sodium nitrite
  - 2627 Nitrites, inorganic, n.o.s.
  - 2726 Nickel nitrite
  - 3219 Nitrites, inorganic, aqueous solution, n.o.s
- 13 Perchlorates (SGG13)**
  - 1442 Ammonium perchlorate
  - 1447 Barium perchlorate, solid
  - 1455 Calcium perchlorate
  - 1470 Lead perchlorate, solid
  - 1475 Magnesium perchlorate
  - 1481 Perchlorates, inorganic, n.o.s.
  - 1489 Potassium perchlorate
  - 1502 Sodium perchlorate
  - 1508 Strontium perchlorate
  - 3211 Perchlorates, inorganic, aqueous solution, n.o.s.
  - 3406 Barium perchlorate solution
  - 3408 Lead perchlorate solution
- 14 Permanganates (SGG14)**
  - 1448 Barium permanganate
  - 1456 Calcium permanganate
  - 1482 Permanganates, inorganic, n.o.s.
  - 1490 Potassium permanganate
  - 1503 Sodium permanganate
  - 1515 Zinc permanganate
  - 3214 Permanganates, inorganic, aqueous solution, n.o.s.
- 15 Powdered metals (SGG15)**
  - 1309 Aluminium powder, coated
  - 1326 Hafnium powder, wetted with not less than 25% water
  - 1352 Titanium powder, wetted with not less than 25% water
  - 1358 Zirconium powder, wetted with not less than 25% water
  - 1383 Pyrophoric alloy or pyrophoric metal, n.o.s.
  - 1396 Aluminium powder, uncoated
  - 1398 Aluminium silicon powder, uncoated
  - 1418 Magnesium powder or magnesium alloys powder
  - 1435 Zinc ashes
  - 1436 Zinc dust or zinc powder
  - 1854 Barium alloys, pyrophoric
  - 2008 Zirconium powder, dry
  - 2009 Zirconium, dry, sheets, strip or coiled wire
  - 2545 Hafnium powder, dry
  - 2546 Titanium powder, dry

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- 2878 Titanium sponge powders
- 2881 Metal catalyst, dry
- 2950 Magnesium granules, coated, particle size not less than 149 microns
- 3078 Cerium, turnings or gritty powder
- 3089 Metal powder, flammable, n.o.s.
- 3170 Aluminium smelting by-products or aluminium remelting by-products
- 3189 Metal powder, self-heating, n.o.s.

**16 Peroxides (SGG16)**

- 1449 Barium peroxide
- 1457 Calcium peroxide
- 1472 Lithium peroxide
- 1476 Magnesium peroxide
- 1483 Peroxides, inorganic, n.o.s.
- 1491 Potassium peroxide
- 1504 Sodium peroxide
- 1509 Strontium peroxide
- 1516 Zinc peroxide
- 2014 Hydrogen peroxide, aqueous solution, 20–60%
- 2015 Hydrogen peroxide, aqueous solution, stabilized
- 2466 Potassium superoxide
- 2547 Sodium superoxide
- 3149 Hydrogen peroxide and peroxyacetic acid mixture
- 3377 Sodium perborate monohydrate
- 3378 Sodium carbonate peroxyhydrate

**17 Azides (SGG17)**

- 0129 Lead azide, wetted with not less than 20% water, or mixture of alcohol and water, by mass
- 0224 Barium azide, dry or wetted with less than 50% water, by mass
- 1571 Barium azide, wetted with not less than 50% water, by mass
- 1687 Sodium azide

**18 Alkalis (SGG18)**

- 1005 Ammonia, anhydrous
- 1160 Dimethylamine, aqueous solution
- 1163 Dimethylhydrazine, unsymmetrical
- 1235 Methylamine, aqueous solution
- 1244 Methylhydrazine
- 1289 Sodium methylate solution in alcohol
- 1382 Potassium sulphide, anhydrous or potassium sulphide with less than 30% water of crystallization
- 1385 Sodium sulphide, anhydrous or sodium sulphide with less than 30% water of crystallization
- 1431 Sodium methylate
- 1604 Ethylenediamine
- 1719 Caustic alkali liquid, n.o.s.
- 1813 Potassium hydroxide, solid
- 1814 Potassium hydroxide solution
- 1819 Sodium aluminate solution
- 1823 Sodium hydroxide, solid
- 1824 Sodium hydroxide solution
- 1825 Sodium monoxide
- 1835 Tetramethylammonium hydroxide solution
- 1847 Potassium sulphide, hydrated with not less than 30% water of crystallization
- 1849 Sodium sulphide, hydrated with not less than 30% water

1907	Soda lime with more than 4% sodium hydroxide
1922	Pyrrolidine
2029	Hydrazine, anhydrous
2030	Hydrazine, aqueous solution with more than 37% hydrazine, by mass
2033	Potassium monoxide
2073	Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia
2079	Diethylenetriamine
2259	Triethylenetetramine
2270	Ethylamine, aqueous solution, with not less than 50% but not more than 70% ethylamine
2318	Sodium hydrosulphide with less than 25% water of crystallization
2320	Tetraethylenepentamine
2379	1,3-Dimethylbutylamine
2382	Dimethylhydrazine, symmetrical
2386	1-Ethylpiperidine
2399	1-Methylpiperidine
2401	Piperidine
2491	Ethanolamine or ethanolamine solution
2579	Piperazine
2671	Aminopyridines ( <i>o</i> -, <i>m</i> -, <i>p</i> -)
2672	Ammonia solution relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia, by mass
2677	Rubidium hydroxide solution
2678	Rubidium hydroxide
2679	Lithium hydroxide solution
2680	Lithium hydroxide
2681	Caesium hydroxide solution
2682	Caesium hydroxide
2683	Ammonium sulphide solution
2733	Amines, flammable, corrosive, n.o.s. or polyamines, flammable, corrosive, n.o.s.
2734	Amines, liquid, corrosive, flammable, n.o.s. or polyamines, liquid, corrosive, flammable, n.o.s.
2735	Amines, liquid, corrosive, n.o.s. or polyamines, liquid, corrosive, n.o.s.
2795	Batteries, wet, filled with alkali, electric storage
2797	Battery fluid, alkali
2818	Ammonium polysulphide solution
2949	Sodium hydrosulphide, hydrated with not less than 25% water of crystallization
3028	Batteries, dry, containing potassium hydroxide, solid electric storage
3073	Vinylpyridines, stabilized
■ 3206	Alkali metal alcoholates, self-heating, corrosive, n.o.s.
3253	Disodium trioxosilicate
3259	Amines, solid, corrosive, n.o.s. or polyamines, solid, corrosive, n.o.s.
3262	Corrosive solid, basic, inorganic, n.o.s.
3263	Corrosive solid, basic, organic, n.o.s.
3266	Corrosive liquid, basic, inorganic, n.o.s.
3267	Corrosive liquid, basic, organic, n.o.s.
■ 3274	Alcoholates solution, n.o.s.
3293	Hydrazine, aqueous solution with not more than 37% hydrazine, by mass
3318	Ammonia solution, relative density less than 0.880 at 15°C in water, with more than 50% ammonia
3320	Sodium borohydride and sodium hydroxide solution with not more than 12% sodium borohydride and not more than 40% sodium hydroxide, by mass

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- |      |  |
|------|--|
| 3423 | Tetramethylammonium hydroxide, solid   |
| 3484 | Hydrazine aqueous solution, flammable, with more than 37% hydrazine, by mass |

## Chapter 3.2

### *Dangerous Goods List*

#### 3.2.1 Structure of the Dangerous Goods List

The Dangerous Goods List is divided into 18 columns as follows:

- |           |   |
|-----------|---|
| Column 1  | <b>UN No.</b> – this column contains the United Nations number assigned to a dangerous good by the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods (UN List).   |
| Column 2  | <b>Proper shipping name (PSN)</b> – this column contains the proper shipping names in upper-case characters, which may have to be followed by additional descriptive text in lower-case characters (see 3.1.2). Proper shipping names may be shown in plural where isomers of similar classification exist. Hydrates may be included under the proper shipping name for the anhydrous substances. Unless otherwise indicated for an entry in the Dangerous Goods List, the word “SOLUTION” in a proper shipping name means one or more named dangerous goods dissolved in a liquid that is not otherwise subject to this Code. When a flashpoint is mentioned in this column, the data is based on closed-cup (c.c.) methods. |
| Column 3  | <b>Class or division</b> – this column contains the class and, in the case of class 1, the division and the compatibility group assigned to the substance or article according to the classification system described in part 2, chapter 2.1.   |
| Column 4  | <b>Subsidiary hazard(s)</b> – this column contains the class number(s) of any subsidiary hazard(s) which have been identified by applying the classification system described in part 2. This column also identifies a dangerous good as a marine pollutant as follows: <p style="margin-left: 20px;">P – Marine pollutant: a non-exhaustive list of known marine pollutants, based on previous criteria and assignment. The absence of the symbol P or the presence of a “–” in that column does not preclude the application of 2.10.3.</p>   |
| Column 5  | <b>Packing group</b> – this column contains the packing group number (i.e. I, II or III) where assigned to the substance or article. If more than one packing group is indicated for the entry, the packing group of the substance or formulation to be transported shall be determined, based on its properties, through application of the hazard grouping criteria as provided in part 2.  |
| Column 6  | <b>Special provisions</b> – this column contains a number referring to any special provision(s) indicated in chapter 3.3 that is relevant to the substance or article. Special provisions apply to all packing groups permitted for a particular substance or article unless the wording makes it otherwise apparent. The special provision numbers specific to the sea mode start from 900. <p style="margin-left: 20px;"><b>Note:</b> When a special provision is no longer needed, this special provision is deleted but the special provision number is not allocated again, in order not to confuse the users of this Code. For this reason, some of the numbers are missing.</p>  |
| Column 7a | <b>Limited quantities</b> – this column provides the maximum quantity per inner packaging or article for transporting dangerous goods as limited quantities in accordance with chapter 3.4.   |
| Column 7b | <b>Excepted quantities</b> – this column provides an alpha-numeric code described in subsection 3.5.1.2 which indicates the maximum quantity per inner and outer packaging for transporting dangerous goods as excepted quantities in accordance with chapter 3.5.  |
| Column 8  | <b>Packing instructions</b> – this column contains alpha-numeric codes which refer to the relevant packing instruction(s) in 4.1.4. The packing instructions indicate the packagings (including large packagings) which may be used for the transport of substances and articles. <p style="margin-left: 20px;">A code including the letter “P” refers to packing instructions for the use of packagings described in chapter 6.1, 6.2 or 6.3.</p>  |

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- A code including the letters “LP” refers to packing instructions for the use of large packagings described in chapter 6.6.
- When a code including the letter(s) “P” or “LP” is not provided, it means that the substance is not allowed in that type of packaging.
- Column 9 **Special packing provisions** – this column contains alpha-numeric codes which refer to the relevant special packing provisions specified in 4.1.4. The special packing provisions indicate the packagings (including large packagings).
- A special packing provision including the letters “PP” refers to a special packing provision applicable to the use of a packing instruction bearing the Code “P” in 4.1.4.1.
- A special packing provision including the letter “L” refers to a special packing provision applicable to a packing instruction bearing the code “LP” in 4.1.4.3.
- Column 10 **IBC packing instructions** – this column contains alpha-numeric codes that refer to the relevant IBC instruction, which indicates the type of IBC that shall be used for the transport of the substance under reference. A code including the letters “IBC” refers to packing instructions for the use of IBCs described in chapter 6.5. When a code is not provided, it means the substance is not authorized in IBC.
- Column 11 **IBC special provisions** – this column contains an alpha-numeric code, including the letter “B”, which refers to special packing provisions applicable to the use of packing instructions bearing the code “IBC” in 4.1.4.2.
- Column 12 [Reserved]
- Column 13 **Tank and bulk container instructions** – this column contains T codes (see 4.2.5.2.6) applicable to the transport of dangerous goods in portable tanks and road tank vehicles.
- When a T code is not provided in this column, it means that the dangerous goods are not authorized for transport in tanks unless specifically approved by the competent authority.
- A code including the letters “BK” refers to the type of bulk containers used for the transport of bulk goods described in chapters 4.3 and 6.9.
- The gases authorized for transport in MEGCs are indicated in the column “MEGC” in tables 1 and 2 of packing instruction P200 in 4.1.4.1.
- Column 14 **Tank special provisions** – this column contains TP notes (see 4.2.5.3) applicable to the transport of dangerous goods in portable tanks and road tank vehicles. The TP notes specified in this column apply to the portable tanks specified in column 13.
- Column 15 **EmS** – this column refers to the relevant emergency schedules for FIRE and SPILLAGE in “The EmS Guide – Revised Emergency Response Procedures for Ships Carrying Dangerous Goods”.
- The first EmS code refers to the relevant Fire Schedule (e.g. Fire Schedule Alfa “F-A” General Fire Schedule).
- The second EmS code refers to the relevant Spillage Schedule (e.g. Spillage Schedule Alfa “S-A” Toxic Substances).
- Underlined EmS codes (special cases) indicate a substance, material or article for which additional advice is given in the emergency response procedures.
- For dangerous goods offered for transport under N.O.S. entries or other generic entries, the most relevant emergency response procedures may vary with the properties of the hazardous constituents. As a consequence, shippers may have to declare different EmS codes from those indicated, if, to their knowledge, such codes are more appropriate.
- The provisions in this column are not mandatory.
- Column 16a **Stowage and handling** – this column contains the stowage and handling codes as specified in 7.1.5 and 7.1.6.
- Column 16b **Segregation** – this column contains the segregation group codes as specified in 7.2.5.2 and the segregation codes as specified in 7.2.8.
- Column 17 **Properties and observations** – this column contains properties of and observations on the dangerous goods listed. The provisions in this column are not mandatory.
- Properties of most gases include an indication of its density in relation to air. The figures in brackets give the density relative to air.
- .1 “lighter than air” when the vapour density is down to half that of air;

- .2 “much lighter than air” when the vapour density is less than half that of air;
- .3 “heavier than air” when the vapour density is up to twice that of air; and
- .4 “much heavier than air” when the vapour density is more than twice that of air.

When explosive limits are given, these refer to the volume percentage of the vapour of the substance when mixed with air.

The ease and extent to which different liquids mix with water varies greatly and most entries have included an indication of miscibility. In these cases “miscible with water” normally means capable of being mixed with water in all proportions to form a completely homogeneous liquid.

Column 18 **UN No.** – see column 1.

### 3.2.2 Abbreviations and symbols

The following abbreviations and symbols are used in the Dangerous Goods List and have the meanings shown:

Abbreviation/symbol	Column	Meaning
N.O.S.	2	Not otherwise specified
P	4	Marine pollutant





# **Dangerous Goods List**

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0004	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	PP26	–	–
△ 0005	CARTRIDGES FOR WEAPONS with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0006	CARTRIDGES FOR WEAPONS with bursting charge	1.1E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0007	CARTRIDGES FOR WEAPONS with bursting charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
0009	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.2G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0010	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.3G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4S	–	–	364	5 kg	E0	P130 LP101	–	–	–
△ 0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK or CARTRIDGES FOR TOOLS, BLANK	1.4S	–	–	364	5 kg	E0	P130 LP101	–	–	–
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.2G	See SP204	–	204	0	E0	P130 LP101	PP67 L1	–	–
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.3G	See SP204	–	204	0	E0	P130 LP101	PP67 L1	–	–
0018	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.2G	6.1/8	–	–	0	E0	P130 LP101	PP67 L1	–	–
0019	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.3G	6.1/8	–	–	0	E0	P130 LP101	PP67 L1	–	–
0020	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1.2K	6.1	–	274	0	E0	P101	–	–	–
0021	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1.3K	6.1	–	274	0	E0	P101	–	–	–
0027	BLACK POWDER (GUNPOWDER) granular, or as a meal	1.1D	–	–	–	0	E0	P113	PP50	–	–
0028	BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS	1.1D	–	–	–	0	E0	P113	PP51	–	–
0029	DETONATORS, NON-ELECTRIC for blasting	1.1B	–	–	–	0	E0	P131	PP68	–	–
0030	DETONATORS, ELECTRIC for blasting	1.1B	–	–	–	0	E0	P131	–	–	–
△ 0033	BOMBS with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 04 SW1	SGG2 SG27 SG31	Substance.	0004
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0005
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0006
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0007
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0009
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0010
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0012
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0014
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0015
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0016
–	–	–	<u>F-B</u> , S-Z	Category 03 SW1	SG2	See glossary of terms in appendix B.	0018
–	–	–	<u>F-B</u> , S-Z	Category 03 SW1	SG3	See glossary of terms in appendix B.	0019
–	–	–	<u>F-B</u> , S-Z	Category 05 SW1	–	See glossary of terms in appendix B.	0020
–	–	–	<u>F-B</u> , S-Z	Category 05 SW1	–	See glossary of terms in appendix B.	0021
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0027
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0028
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0029
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0030
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0033

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0034	BOMBS with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0035	BOMBS with bursting charge	1.2D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0037	BOMBS, PHOTO-FLASH	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0038	BOMBS, PHOTO-FLASH	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0039	BOMBS, PHOTO-FLASH	1.2G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0042	BOOSTERS without detonator	1.1D	–	–	–	0	E0	P132 (a) or (b)	–	–	–
0043	BURSTERS explosive	1.1D	–	–	–	0	E0	P133	PP69	–	–
0044	PRIMERS, CAP TYPE	1.4S	–	–	–	0	E0	P133	–	–	–
0048	CHARGES, DEMOLITION	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0049	CARTRIDGES, FLASH	1.1G	–	–	–	0	E0	P135	–	–	–
0050	CARTRIDGES, FLASH	1.3G	–	–	–	0	E0	P135	–	–	–
0054	CARTRIDGES, SIGNAL	1.3G	–	–	–	0	E0	P135	–	–	–
0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1.4S	–	–	364	5 kg	E0	P136	–	–	–
0056	CHARGES, DEPTH	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0059	CHARGES, SHAPED, without detonator	1.1D	–	–	–	0	E0	P137	PP70	–	–
0060	CHARGES, SUPPLEMENTARY, EXPLOSIVE	1.1D	–	–	–	0	E0	P132 (a) or (b)	–	–	–
0065	CORD, DETONATING, flexible	1.1D	–	–	–	0	E0	P139	PP71 PP72	–	–
0066	CORD, IGNITER	1.4G	–	–	–	0	E0	P140	–	–	–
0070	CUTTERS, CABLE, EXPLOSIVE	1.4S	–	–	–	0	E0	P134 LP102	–	–	–
0072	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), WETTED with not less than 15% water, by mass	1.1D	–	–	266	0	E0	P112 (a)	PP45	–	–
0073	DETONATORS FOR AMMUNITION	1.1B	–	–	–	0	E0	P133	–	–	–
0074	DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–
0075	DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass	1.1D	–	–	266	0	E0	P115	PP53 PP54 PP57 PP58	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0034
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0035
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0037
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0038
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0039
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0042
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0043
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0044
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0048
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0049
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0050
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0054
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0055
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0056
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0059
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0060
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0065
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0066
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0070
–	–	–	F-B, S-Y	Category 04 SW1	–	Mass detonating explosive which becomes more sensitive if the wetting agent is lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0072
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0073
–	–	–	F-B, S-Y	Category 05 SW1	–	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0074
–	–	–	F-B, S-Y	Category 04 SW1	–	This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0075

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0076	DINITROPHENOL, dry or wetted with less than 15% water, by mass	1.1D	6.1 P	–	–	0	E0	P112 (a), (b) or (c)	PP26	–	–
0077	DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	1.3C	6.1 P	–	–	0	E0	P114 (a) or (b)	PP26	–	–
0078	DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	PP26	–	–
0079	HEXANITRODIPHENYLAMINE (DIPICRYLAMINE; HEXYL)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0081	EXPLOSIVE, BLASTING, TYPE A	1.1D	–	–	–	0	E0	P116	PP63 PP66	–	–
0082	EXPLOSIVE, BLASTING, TYPE B	1.1D	–	–	–	0	E0	P116	PP61 PP62	IBC100	B9
0083	EXPLOSIVE, BLASTING, TYPE C	1.1D	–	–	267	0	E0	P116	–	–	–
0084	EXPLOSIVE, BLASTING, TYPE D	1.1D	–	–	–	0	E0	P116	–	–	–
0092	FLARES, SURFACE	1.3G	–	–	–	0	E0	P135	–	–	–
0093	FLARES, AERIAL	1.3G	–	–	–	0	E0	P135	–	–	–
0094	FLASH POWDER	1.1G	–	–	–	0	E0	P113	PP49	–	–
0099	FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells	1.1D	–	–	–	0	E0	P134 LP102	–	–	–
0101	FUSE, NON-DETONATING	1.3G	–	–	–	0	E0	P140	PP74 PP75	–	–
0102	CORD (FUSE), DETONATING, metal-clad	1.2D	–	–	–	0	E0	P139	PP71	–	–
0103	FUSE, IGNITER tubular, metal-clad	1.4G	–	–	–	0	E0	P140	–	–	–
0104	CORD (FUSE), DETONATING, MILD EFFECT, metal-clad	1.4D	–	–	–	0	E0	P139	PP71	–	–
0105	FUSE, SAFETY	1.4S	–	–	–	0	E0	P140	PP73	–	–
0106	FUZES, DETONATING	1.1B	–	–	–	0	E0	P141	–	–	–
0107	FUZES, DETONATING	1.2B	–	–	–	0	E0	P141	–	–	–
0110	GRENADES, PRACTICE, hand or rifle	1.4S	–	–	–	0	E0	P141	–	–	–
0113	GUANYL NITROSAMINO-GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–
0114	GUANYL NITROSAMINO-GUANYLTETRAZENE (TETRAZENE), WETTED with not less than 30% water, or mixture of alcohol and water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Z	Category 04 SW1	SG31	Substance.	0076
–	–	–	F-B, S-Z	Category 04 SW1	SG31	Substance.	0077
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0078
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0079
–	–	–	F-B, S-Y	Category 04 SW1	SG34	Substance. See glossary of terms in appendix B.	0081
–	–	–	F-B, S-Y	Category 04 SW1	SG34	Substance. See glossary of terms in appendix B.	0082
–	–	–	F-B, S-Y	Category 04 SW1	SG28	Substance. See glossary of terms in appendix B.	0083
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. See glossary of terms in appendix B.	0084
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0092
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0093
–	–	–	F-B, S-Y	Category 03 SW1	–	See glossary of terms in appendix B.	0094
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0099
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0101
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0102
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0103
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0104
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0105
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0106
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0107
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0110
–	–	–	F-B, S-Y	Category 05 SW1	–	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0113
–	–	–	F-B, S-Y	Category 05 SW1	–	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0114

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0118	HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0121	IGNITERS	1.1G	–	–	–	0	E0	P142	–	–	–
0124	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.1D	–	–	–	0	E0	P101	–	–	–
0129	LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–
0130	LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–
0131	LIGHTERS, FUSE	1.4S	–	–	–	0	E0	P142	–	–	–
0132	DEFLAGRATING METAL SALTS OF AROMATIC NITRO-DERIVATIVES, N.O.S.	1.3C	–	–	–	0	E0	P114 (b)	PP26	–	–
0133	MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1.1D	–	–	266	0	E0	P112 (a)	–	–	–
0135	MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1A	–	–	266	0	E0	P110 (a) or (b)	PP42	–	–
△ 0136	MINES with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0137	MINES with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0138	MINES with bursting charge	1.2D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0143	NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass	1.1D	See SP271	–	266 271 272	0	E0	P115	PP53 PP54 PP57 PP58	–	–
0144	NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin	1.1D	–	–	358	0	E0	P115	PP45 PP55 PP56 PP59 PP60	–	–
0146	NITROSTARCH, dry or wetted, with less than 20% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0147	NITRO UREA	1.1D	–	–	–	0	E0	P112 (b)	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mixtures of mass detonating explosives.	0118
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0121
–	–	–	F-B, S-X	Category 03 SW1 SW30	–	See glossary of terms in appendix B.	0124
–	–	–	F-B, S-Y	Category 05 SW1	SGG7 SGG9 SGG17	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0129
–	–	–	F-B, S-Y	Category 05 SW1	SGG7 SGG9	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0130
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0131
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0132
–	–	–	F-B, S-Y	Category 04 SW1	–	This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0133
–	–	–	F-B, S-Y	Category 05 SW1	SGG7 SGG11	Sensitive substance used in detonators which will become extremely sensitive if it loses its wetting or desensitizing agent. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0135
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0136
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0137
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0138
–	–	–	F-B, S-Z	Category 04 SW1	–	Substance. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0143
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0144
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0146
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0147



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0150	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), WETTED with not less than 25% water, by mass or PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), DESENSITIZED with not less than 15% phlegmatizer, by mass	1.1D	–	–	266	0	E0	P112 (a) or (b)	–	–	–
0151	PENTOLITE, dry or wetted with less than 15% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0153	TRINITROANILINE (PICRAMIDE)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0154	TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	PP26	–	–
0155	TRINITROCHLOROBENZENE (PICRYL CHLORIDE)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0159	POWDER CAKE (POWDER PASTE), WETTED with not less than 25% water, by mass	1.3C	–	–	266	0	E0	P111	PP43	–	–
0160	POWDER, SMOKELESS	1.1C	–	–	–	0	E0	P114 (b)	PP50 PP52	–	–
0161	POWDER, SMOKELESS	1.3C	–	–	–	0	E0	P114 (b)	PP50 PP52	–	–
△ 0167	PROJECTILES with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0168	PROJECTILES with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0169	PROJECTILES with bursting charge	1.2D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0171	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.2G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0173	RELEASE DEVICES, EXPLOSIVE	1.4S	–	–	–	0	E0	P134 LP102	–	–	–
0174	RIVETS, EXPLOSIVE	1.4S	–	–	–	0	E0	P134 LP102	–	–	–
△ 0180	ROCKETS with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0181	ROCKETS with bursting charge	1.1E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0182	ROCKETS with bursting charge	1.2E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0183	ROCKETS with inert head	1.3C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0186	ROCKET MOTORS	1.3C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0190	SAMPLES, EXPLOSIVE, other than initiating explosive	1	–	–	16 274	0	E0	P101	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive which will become more sensitive if it loses its wetting or desensitizing agent. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0150
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mixtures of mass detonating explosive substances.	0151
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0153
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0154
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0155
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerin or other liquid organic nitrates or a mixture of these. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0159
–	–	–	F-B, S-Y	Category 04 SW1	–	Substances based on nitrocellulose used as propellant. Sensitive to sparks, friction, pressure and electrostatic discharge.	0160
–	–	–	F-B, S-Y	Category 04 SW1	–	Substances based on nitrocellulose used as propellant. Sensitive to sparks, friction, pressure and electrostatic discharge.	0161
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0167
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0168
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0169
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0171
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0173
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0174
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0180
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0181
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0182
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0183
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0186
–	–	–	F-B, S-X	Category 05 SW1	–	Substance or article. Division and compatibility group as classified by the competent authority.	0190

Part 3 – Dangerous Goods List, special provisions and exceptions

Chapter 3.2 – Dangerous Goods List

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0191	SIGNAL DEVICES, HAND	1.4G	–	–	–	0	E0	P135	–	–	–
0192	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.1G	–	–	–	0	E0	P135	–	–	–
0193	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.4S	–	–	–	0	E0	P135	–	–	–
0194	SIGNALS, DISTRESS, ship	1.1G	–	–	–	0	E0	P135	–	–	–
0195	SIGNALS, DISTRESS, ship	1.3G	–	–	–	0	E0	P135	–	–	–
0196	SIGNALS, SMOKE	1.1G	–	–	–	0	E0	P135	–	–	–
0197	SIGNALS, SMOKE	1.4G	–	–	–	0	E0	P135	–	–	–
0204	SOUNDING DEVICES, EXPLOSIVE	1.2F	–	–	–	0	E0	P134 LP102	–	–	–
0207	TETRANITROANILINE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0208	TRINITROPHENYLMETHYL-NITRAMINE (TETRYL)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0209	TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	PP46	–	–
0212	TRACERS FOR AMMUNITION	1.3G	–	–	–	0	E0	P133	PP69	–	–
0213	TRINITROANISOLE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0214	TRINITROBENZENE, dry or wetted with less than 30% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0215	TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0216	TRINITRO- <i>m</i> -CRESOL	1.1D	–	–	–	0	E0	P112 (b) or (c)	PP26	–	–
0217	TRINITRONAPHTHALENE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0218	TRINITROPHENETOLE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0219	TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	PP26	–	–
0220	UREA NITRATE, dry or wetted with less than 20% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0221	WARHEADS, TORPEDO with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0222	AMMONIUM NITRATE	1.1D	–	–	370	0	E0	P112 (b) or (c)	PP47	IBC100	B2 B3 B17

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0191
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0192
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0193
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0194
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0195
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0196
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0197
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0204
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0207
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive.	0208
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Tritonal is a substance consisting of trinitrotoluene (TNT) mixed with aluminium.	0209
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0212
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0213
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0214
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0215
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0216
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0217
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0218
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0219
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0220
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0221
–	–	–	F-B, S-Y	Category 04 SW1	SGG2 SG27	Substance.	0222

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0224	BARIUM AZIDE, dry or wetted with less than 50% water, by mass	1.1A	6.1	–	–	0	E0	P110 (a) or (b)	PP42	–	–
0225	BOOSTERS WITH DETONATOR	1.1B	–	–	–	0	E0	P133	PP69	–	–
0226	CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), WETTED with not less than 15% water, by mass	1.1D	–	–	266	0	E0	P112 (a)	PP45	–	–
0234	SODIUM DINITRO- <i>o</i> -CRESOLATE, dry or wetted with less than 15% water, by mass	1.3C	6.1 P	–	–	0	E0	P114 (a) or (b)	PP26	–	–
0235	SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C	–	–	–	0	E0	P114 (a) or (b)	PP26	–	–
0236	ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1.3C	–	–	–	0	E0	P114 (a) or (b)	PP26	–	–
0237	CHARGES, SHAPED, FLEXIBLE, LINEAR	1.4D	–	–	–	0	E0	P138	–	–	–
△ 0238	ROCKETS, LINE-THROWING	1.2G	–	–	–	0	E0	P130 LP101	–	–	–
△ 0240	ROCKETS, LINE-THROWING	1.3G	–	–	–	0	E0	P130 LP101	–	–	–
0241	EXPLOSIVE, BLASTING, TYPE E	1.1D	–	–	–	0	E0	P116	PP61 PP62	IBC100	B10
△ 0242	CHARGES, PROPELLING, FOR CANNON	1.3C	–	–	–	0	E0	P130 LP101	–	–	–
0243	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0244	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.3H	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0245	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.2H	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0246	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1.3H	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0247	AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge	1.3J	–	–	–	0	E0	P101	–	–	–
0248	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1.2L	4.3	–	274	0	E0	P144	PP77	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Z	Category 05 SW1	SGG17	Sensitive substance used in detonators, which becomes extremely sensitive if the wetting agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0224
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0225
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive which will become more sensitive if the wetting or desensitizing agent is lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0226
–	–	–	F-B, S-Z	Category 04 SW1	SG31	Substance.	0234
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0235
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0236
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0237
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0238
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0240
–	–	–	F-B, S-X	Category 04 SW1	SG34	See glossary of terms in appendix B.	0241
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0242
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0243
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0244
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0245
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0246
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0247
–	–	–	<u>F-B</u> , S-Y	Category 05 SW1	–	See glossary of terms in appendix B.	0248



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0249	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1.3L	4.3	–	274	0	E0	P144	PP77	–	–
0250	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1.3L	–	–	–	0	E0	P101	–	–	–
0254	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.3G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0255	DETONATORS, ELECTRIC for blasting	1.4B	–	–	–	0	E0	P131	–	–	–
0257	FUZES, DETONATING	1.4B	–	–	–	0	E0	P141	–	–	–
0266	OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0267	DETONATORS, NON-ELECTRIC for blasting	1.4B	–	–	–	0	E0	P131	PP68	–	–
0268	BOOSTERS WITH DETONATOR	1.2B	–	–	–	0	E0	P133	PP69	–	–
0271	CHARGES, PROPELLING	1.1C	–	–	–	0	E0	P143	PP76	–	–
0272	CHARGES, PROPELLING	1.3C	–	–	–	0	E0	P143	PP76	–	–
0275	CARTRIDGES, POWER DEVICE	1.3C	–	–	–	0	E0	P134 LP102	–	–	–
0276	CARTRIDGES, POWER DEVICE	1.4C	–	–	–	0	E0	P134 LP102	–	–	–
0277	CARTRIDGES, OIL WELL	1.3C	–	–	–	0	E0	P134 LP102	–	–	–
0278	CARTRIDGES, OIL WELL	1.4C	–	–	–	0	E0	P134 LP102	–	–	–
△ 0279	CHARGES, PROPELLING, FOR CANNON	1.1C	–	–	–	0	E0	P130 LP101	–	–	–
0280	ROCKET MOTORS	1.1C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0281	ROCKET MOTORS	1.2C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0282	NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0283	BOOSTERS without detonator	1.2D	–	–	–	0	E0	P132 (a) or (b)	–	–	–
0284	GRENADES, hand or rifle, with bursting charge	1.1D	–	–	–	0	E0	P141	–	–	–
0285	GRENADES, hand or rifle, with bursting charge	1.2D	–	–	–	0	E0	P141	–	–	–
0286	WARHEADS, ROCKET with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0287	WARHEADS, ROCKET with bursting charge	1.2D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0288	CHARGES, SHAPED, FLEXIBLE, LINEAR	1.1D	–	–	–	0	E0	P138	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 05 SW1	–	See glossary of terms in appendix B.	0249
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0250
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0254
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0255
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0257
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mixtures of mass detonating explosives.	0266
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0267
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0268
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0271
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0272
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0275
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0276
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0277
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0278
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0279
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0280
–	–	–	F-B, S-X	Category 04 SW1	–	See glossary of terms in appendix B.	0281
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0282
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0283
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0284
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0285
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0286
	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0287
–	–	–	F-B, S-X	Category 04 SW1	–	See glossary of terms in appendix B.	0288

Part 3 – Dangerous Goods List, special provisions and exceptions

Chapter 3.2 – Dangerous Goods List

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0289	CORD, DETONATING, flexible	1.4D	–	–	–	0	E0	P139	PP71 PP72	–	–
0290	CORD (FUSE), DETONATING, metal-clad	1.1D	–	–	–	0	E0	P139	PP71	–	–
△ 0291	BOMBS with bursting charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
0292	GRENADES, hand or rifle, with bursting charge	1.1F	–	–	–	0	E0	P141	–	–	–
0293	GRENADES, hand or rifle, with bursting charge	1.2F	–	–	–	0	E0	P141	–	–	–
△ 0294	MINES with bursting charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
△ 0295	ROCKETS with bursting charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
0296	SOUNDING DEVICES, EXPLOSIVE	1.1F	–	–	–	0	E0	P134 LP102	–	–	–
0297	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0299	BOMBS, PHOTO-FLASH	1.3G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0300	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0301	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1.4G	6.1/8	–	–	0	E0	P130 LP101	PP67 L1	–	–
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1.4G	See SP204	–	204	0	E0	P130 LP101	PP67 L1	–	–
0305	FLASH POWDER	1.3G	–	–	–	0	E0	P113	PP49	–	–
0306	TRACERS FOR AMMUNITION	1.4G	–	–	–	0	E0	P133	PP69	–	–
0312	CARTRIDGES, SIGNAL	1.4G	–	–	–	0	E0	P135	–	–	–
0313	SIGNALS, SMOKE	1.2G	–	–	–	0	E0	P135	–	–	–
0314	IGNITERS	1.2G	–	–	–	0	E0	P142	–	–	–
0315	IGNITERS	1.3G	–	–	–	0	E0	P142	–	–	–
0316	FUZES, IGNITING	1.3G	–	–	–	0	E0	P141	–	–	–
0317	FUZES, IGNITING	1.4G	–	–	–	0	E0	P141	–	–	–
0318	GRENADES, PRACTICE, hand or rifle	1.3G	–	–	–	0	E0	P141	–	–	–
0319	PRIMERS, TUBULAR	1.3G	–	–	–	0	E0	P133	–	–	–
0320	PRIMERS, TUBULAR	1.4G	–	–	–	0	E0	P133	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0289
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0290
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0291
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0292
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0293
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0294
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0295
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0296
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0297
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0299
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0300
–	–	–	<u>F-B</u> , S-Z	Category 02 SW1	SG74	See glossary of terms in appendix B.	0301
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0303
–	–	–	F-B, S-Y	Category 03 SW1	–	See glossary of terms in appendix B.	0305
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0306
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0312
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0313
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0314
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0315
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0316
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0317
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0318
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0319
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0320

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0321	CARTRIDGES FOR WEAPONS with bursting charge	1.2E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0322	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1.2L	–	–	–	0	E0	P101	–	–	–
0323	CARTRIDGES, POWER DEVICE	1.4S	–	–	347	0	E0	P134 LP102	–	–	–
△ 0324	PROJECTILES with bursting charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
0325	IGNITERS	1.4G	–	–	–	0	E0	P142	–	–	–
△ 0326	CARTRIDGES FOR WEAPONS, BLANK	1.1C	–	–	–	0	E0	P130 LP101	–	–	–
△ 0327	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.3C	–	–	–	0	E0	P130 LP101	–	–	–
0328	CARTRIDGES FOR WEAPONS, INERT PROJECTILE	1.2C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0329	TORPEDOES with bursting charge	1.1E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0330	TORPEDOES with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0331	EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B)	1.5D	–	–	–	0	E0	P116	PP61 PP62 PP64	IBC100	–
0332	EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)	1.5D	–	–	–	0	E0	P116	PP61 PP62	IBC100	–
0333	FIREWORKS	1.1G	–	–	–	0	E0	P135	–	–	–
0334	FIREWORKS	1.2G	–	–	–	0	E0	P135	–	–	–
0335	FIREWORKS	1.3G	–	–	–	0	E0	P135	–	–	–
0336	FIREWORKS	1.4G	–	–	–	0	E0	P135	–	–	–
0337	FIREWORKS	1.4S	–	–	–	0	E0	P135	–	–	–
△ 0338	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1.4C	–	–	–	0	E0	P130 LP101	–	–	–
△ 0339	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4C	–	–	–	0	E0	P130 LP101	–	–	–
△ 0340	NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	1.1D	–	–	393	0	E0	P112 (a) or (b)	–	–	–
△ 0341	NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass	1.1D	–	–	393	0	E0	P112 (b)	–	–	–
△ 0342	NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass	1.3C	–	–	105 393	0	E0	P114 (a)	PP43	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0321
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0322
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0323
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0324
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0325
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0326
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0327
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0328
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0329
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0330
–	T1	TP1 TP17 TP32	F-B, S-Y	Category 03 SW1	SG34	See glossary of terms in appendix B.	0331
–	T1	TP1 TP17 TP32	F-B, S-Y	Category 03 SW1	SG34	See glossary of terms in appendix B.	0332
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0333
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0334
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0335
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0336
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0337
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0338
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0339
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0340
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0341
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0342

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 0343	NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass	1.3C	–	–	105 393	0	E0	P111	–	–	–
0344	PROJECTILES with bursting charge	1.4D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0345	PROJECTILES, inert with tracer	1.4S	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0346	PROJECTILES with burster or expelling charge	1.2D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0347	PROJECTILES with burster or expelling charge	1.4D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0348	CARTRIDGES FOR WEAPONS with bursting charge	1.4F	–	–	–	0	E0	P130 LP101	–	–	–
0349	ARTICLES, EXPLOSIVE, N.O.S.	1.4S	–	–	178 274 347	0	E0	P101	–	–	–
0350	ARTICLES, EXPLOSIVE, N.O.S.	1.4B	–	–	178 274	0	E0	P101	–	–	–
0351	ARTICLES, EXPLOSIVE, N.O.S.	1.4C	–	–	178 274	0	E0	P101	–	–	–
0352	ARTICLES, EXPLOSIVE, N.O.S.	1.4D	–	–	178 274	0	E0	P101	–	–	–
0353	ARTICLES, EXPLOSIVE, N.O.S.	1.4G	–	–	178 274	0	E0	P101	–	–	–
0354	ARTICLES, EXPLOSIVE, N.O.S.	1.1L	See SP943	–	178 274	0	E0	P101	–	–	–
0355	ARTICLES, EXPLOSIVE, N.O.S.	1.2L	See SP943	–	178 274	0	E0	P101	–	–	–
0356	ARTICLES, EXPLOSIVE, N.O.S.	1.3L	See SP943	–	178 274	0	E0	P101	–	–	–
0357	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1L	–	–	178 274	0	E0	P101	–	–	–
0358	SUBSTANCES, EXPLOSIVE, N.O.S.	1.2L	–	–	178 274	0	E0	P101	–	–	–
0359	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3L	–	–	178 274	0	E0	P101	–	–	–
0360	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.1B	–	–	–	0	E0	P131	–	–	–
0361	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.4B	–	–	–	0	E0	P131	–	–	–
0362	AMMUNITION, PRACTICE	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0363	AMMUNITION, PROOF	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0364	DETONATORS FOR AMMUNITION	1.2B	–	–	–	0	E0	P133	–	–	–
0365	DETONATORS FOR AMMUNITION	1.4B	–	–	–	0	E0	P133	–	–	–
0366	DETONATORS FOR AMMUNITION	1.4S	–	–	347	0	E0	P133	–	–	–
0367	FUZES, DETONATING	1.4S	–	–	347	0	E0	P141	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0343
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0344
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0345
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0346
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0347
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0348
–	–	–	F-B, S-X	Category 01 SW1	–	–	0349
–	–	–	F-B, S-X	Category 05 SW1	–	–	0350
–	–	–	F-B, S-X	Category 02 SW1	–	–	0351
–	–	–	F-B, S-X	Category 02 SW1	–	–	0352
–	–	–	F-B, S-X	Category 02 SW1	–	–	0353
–	–	–	F-B, S-X	Category 05 SW1	–	–	0354
–	–	–	F-B, S-X	Category 05 SW1	–	–	0355
–	–	–	F-B, S-X	Category 05 SW1	–	–	0356
–	–	–	F-B, S-Y	Category 05 SW1	–	–	0357
–	–	–	F-B, S-Y	Category 05 SW1	–	–	0358
–	–	–	F-B, S-Y	Category 05 SW1	–	–	0359
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0360
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0361
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0362
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0363
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0364
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0365
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0366
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0367

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0368	FUZES, IGNITING	1.4S	–	–	–	0	E0	P141	–	–	–
△ 0369	WARHEADS, ROCKET with bursting charge	1.1F	–	–	–	0	E0	P130 LP101	–	–	–
0370	WARHEADS, ROCKET with burster or expelling charge	1.4D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0371	WARHEADS, ROCKET with burster or expelling charge	1.4F	–	–	–	0	E0	P130 LP101	–	–	–
0372	GRENADES, PRACTICE, hand or rifle	1.2G	–	–	–	0	E0	P141	–	–	–
0373	SIGNAL DEVICES, HAND	1.4S	–	–	–	0	E0	P135	–	–	–
0374	SOUNDING DEVICES, EXPLOSIVE	1.1D	–	–	–	0	E0	P134 LP102	–	–	–
0375	SOUNDING DEVICES, EXPLOSIVE	1.2D	–	–	–	0	E0	P134 LP102	–	–	–
0376	PRIMERS, TUBULAR	1.4S	–	–	–	0	E0	P133	–	–	–
0377	PRIMERS, CAP TYPE	1.1B	–	–	–	0	E0	P133	–	–	–
0378	PRIMERS, CAP TYPE	1.4B	–	–	–	0	E0	P133	–	–	–
0379	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1.4C	–	–	–	0	E0	P136	–	–	–
0380	ARTICLES, PYROPHORIC	1.2L	–	–	–	0	E0	P101	–	–	–
0381	CARTRIDGES, POWER DEVICE	1.2C	–	–	–	0	E0	P134 LP102	–	–	–
0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.2B	–	–	178 274	0	E0	P101	–	–	–
0383	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.4B	–	–	178 274	0	E0	P101	–	–	–
0384	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.4S	–	–	178 274 347	0	E0	P101	–	–	–
0385	5-NITROBENZOTRIAZOL	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0386	TRINITROBENZENESULPHONIC ACID	1.1D	–	–	–	0	E0	P112 (b) or (c)	PP26	–	–
0387	TRINITROFLUORENONE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0388	TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0389	TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0390	TRITONAL	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0368
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0369
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0370
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0371
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0372
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0373
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0374
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0375
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0376
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0377
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0378
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0379
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0380
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0381
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0382
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0383
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0384
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0385
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance.	0386
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0387
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0388
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0389
–	–	–	F-B, S-Y	Category 04 SW1	–	Tritonal is a substance consisting of trinitrotoluene (TNT) mixed with aluminium.	0390



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0391	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water, by mass or CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN) MIXTURE, DESENSITIZED with not less than 10% phlegmatizer, by mass	1.1D	–	–	266	0	E0	P112 (a) or (b)	–	–	–
0392	HEXANITROSTILBENE	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0393	HEXOTONAL	1.1D	–	–	–	0	E0	P112 (b)	–	–	–
0394	TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1.1D	–	–	–	0	E0	P112 (a)	PP26	–	–
0395	ROCKET MOTORS, LIQUID FUELLED	1.2J	–	–	–	0	E0	P101	–	–	–
0396	ROCKET MOTORS, LIQUID FUELLED	1.3J	–	–	–	0	E0	P101	–	–	–
0397	ROCKETS, LIQUID FUELLED with bursting charge	1.1J	–	–	–	0	E0	P101	–	–	–
0398	ROCKETS, LIQUID FUELLED with bursting charge	1.2J	–	–	–	0	E0	P101	–	–	–
0399	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1.1J	–	–	–	0	E0	P101	–	–	–
0400	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1.2J	–	–	–	0	E0	P101	–	–	–
0401	DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass	1.1D	–	–	–	0	E0	P112 (a), (b) or (c)	–	–	–
0402	AMMONIUM PERCHLORATE	1.1D	–	–	152	0	E0	P112 (b) or (c)	–	–	–
0403	FLARES, AERIAL	1.4G	–	–	–	0	E0	P135	–	–	–
0404	FLARES, AERIAL	1.4S	–	–	–	0	E0	P135	–	–	–
0405	CARTRIDGES, SIGNAL	1.4S	–	–	–	0	E0	P135	–	–	–
0406	DINITROSOBENZENE	1.3C	–	–	–	0	E0	P114 (b)	–	–	–
0407	TETRAZOL-1-ACETIC ACID	1.4C	–	–	–	0	E0	P114 (b)	–	–	–
0408	FUZES, DETONATING with protective features	1.1D	–	–	–	0	E0	P141	–	–	–
0409	FUZES, DETONATING with protective features	1.2D	–	–	–	0	E0	P141	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive which will become more sensitive if the wetting or desensitizing agents are lost. This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.	0391
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive.	0392
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive.	0393
–	–	–	F-B, S-Y	Category 04 SW1	SG31	Substance. Mass detonating explosive.	0394
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0395
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0396
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0397
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0398
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0399
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0400
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0401
–	–	–	F-B, S-Y	Category 04 SW1	SGG2 SG27	Substance.	0402
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0403
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0404
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0405
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0406
–	–	–	F-B, S-Y	Category 02 SW1	–	Substance.	0407
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0408
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0409

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0410	FUZES, DETONATING with protective features	1.4D	–	–	–	0	E0	P141	–	–	–
0411	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass	1.1D	–	–	131	0	E0	P112 (b) or (c)	–	–	–
0412	CARTRIDGES FOR WEAPONS with bursting charge	1.4E	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0413	CARTRIDGES FOR WEAPONS, BLANK	1.2C	–	–	–	0	E0	P130 LP101	–	–	–
△ 0414	CHARGES, PROPELLING, FOR CANNON	1.2C	–	–	–	0	E0	P130 LP101	–	–	–
0415	CHARGES, PROPELLING	1.2C	–	–	–	0	E0	P143	PP76	–	–
△ 0417	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.3C	–	–	–	0	E0	P130 LP101	–	–	–
0418	FLARES, SURFACE	1.1G	–	–	–	0	E0	P135	–	–	–
0419	FLARES, SURFACE	1.2G	–	–	–	0	E0	P135	–	–	–
0420	FLARES, AERIAL	1.1G	–	–	–	0	E0	P135	–	–	–
0421	FLARES, AERIAL	1.2G	–	–	–	0	E0	P135	–	–	–
0424	PROJECTILES, inert with tracer	1.3G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0425	PROJECTILES, inert with tracer	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
△ 0426	PROJECTILES with burster or expelling charge	1.2F	–	–	–	0	E0	P130 LP101	–	–	–
△ 0427	PROJECTILES with burster or expelling charge	1.4F	–	–	–	0	E0	P130 LP101	–	–	–
0428	ARTICLES, PYROTECHNIC for technical purposes	1.1G	–	–	–	0	E0	P135	–	–	–
0429	ARTICLES, PYROTECHNIC for technical purposes	1.2G	–	–	–	0	E0	P135	–	–	–
0430	ARTICLES, PYROTECHNIC for technical purposes	1.3G	–	–	–	0	E0	P135	–	–	–
0431	ARTICLES, PYROTECHNIC for technical purposes	1.4G	–	–	–	0	E0	P135	–	–	–
0432	ARTICLES, PYROTECHNIC for technical purposes	1.4S	–	–	–	0	E0	P135	–	–	–
0433	POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass	1.1C	–	–	266	0	E0	P111	–	–	–
0434	PROJECTILES with burster or expelling charge	1.2G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0435	PROJECTILES with burster or expelling charge	1.4G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0436	ROCKETS with expelling charge	1.2C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0410
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0411
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0412
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0413
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0414
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0415
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0417
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0418
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0419
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0420
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0421
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0424
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0425
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0426
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0427
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0428
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0429
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0430
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0431
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0432
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0433
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0434
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0435
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0436

Part 3 – Dangerous Goods List, special provisions and exceptions

Chapter 3.2 – Dangerous Goods List

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0437	ROCKETS with expelling charge	1.3C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0438	ROCKETS with expelling charge	1.4C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0439	CHARGES, SHAPED, without detonator	1.2D	–	–	–	0	E0	P137	PP70	–	–
0440	CHARGES, SHAPED, without detonator	1.4D	–	–	–	0	E0	P137	PP70	–	–
0441	CHARGES, SHAPED, without detonator	1.4S	–	–	347	0	E0	P137	PP70	–	–
0442	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.1D	–	–	–	0	E0	P137	–	–	–
0443	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.2D	–	–	–	0	E0	P137	–	–	–
0444	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.4D	–	–	–	0	E0	P137	–	–	–
0445	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1.4S	–	–	347	0	E0	P137	–	–	–
0446	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.4C	–	–	–	0	E0	P136	–	–	–
0447	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1.3C	–	–	–	0	E0	P136	–	–	–
0448	5-MERCAPTOTETRAZOL-1-ACETIC ACID	1.4C	–	–	–	0	E0	P114 (b)	–	–	–
0449	TORPEDOES, LIQUID FUELLED with or without bursting charge	1.1J	–	–	–	0	E0	P101	–	–	–
0450	TORPEDOES, LIQUID FUELLED with inert head	1.3J	–	–	–	0	E0	P101	–	–	–
0451	TORPEDOES with bursting charge	1.1D	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0452	GRENADES, PRACTICE, hand or rifle	1.4G	–	–	–	0	E0	P141	–	–	–
△ 0453	ROCKETS, LINE-THROWING	1.4G	–	–	–	0	E0	P130 LP101	–	–	–
0454	IGNITERS	1.4S	–	–	–	0	E0	P142	–	–	–
0455	DETONATORS, NON-ELECTRIC for blasting	1.4S	–	–	347	0	E0	P131	PP68	–	–
0456	DETONATORS, ELECTRIC for blasting	1.4S	–	–	347	0	E0	P131	–	–	–
△ 0457	CHARGES, BURSTING, PLASTICS BONDED	1.1D	–	–	–	0	E0	P130 LP101	–	–	–
△ 0458	CHARGES, BURSTING, PLASTICS BONDED	1.2D	–	–	–	0	E0	P130 LP101	–	–	–
△ 0459	CHARGES, BURSTING, PLASTICS BONDED	1.4D	–	–	–	0	E0	P130 LP101	–	–	–
△ 0460	CHARGES, BURSTING, PLASTICS BONDED	1.4S	–	–	347	0	E0	P130 LP101	–	–	–
0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1.1B	–	–	178 274	0	E0	P101	–	–	–
0462	ARTICLES, EXPLOSIVE, N.O.S.	1.1C	–	–	178 274	0	E0	P101	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0437
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0438
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0439
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0440
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0441
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0442
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0443
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0444
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0445
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0446
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0447
–	–	–	F-B, S-Y	Category 02 SW1	–	Substance.	0448
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0449
–	–	–	F-B, S-X	Category 05 SW1	SG67	See glossary of terms in appendix B.	0450
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0451
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0452
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0453
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0454
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0455
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0456
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0457
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0458
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0459
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0460
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0461
–	–	–	F-B, S-X	Category 03 SW1	–	–	0462



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0463	ARTICLES, EXPLOSIVE, N.O.S.	1.1D	–	–	178 274	0	E0	P101	–	–	–
0464	ARTICLES, EXPLOSIVE, N.O.S.	1.1E	–	–	178 274	0	E0	P101	–	–	–
0465	ARTICLES, EXPLOSIVE, N.O.S.	1.1F	–	–	178 274	0	E0	P101	–	–	–
0466	ARTICLES, EXPLOSIVE, N.O.S.	1.2C	–	–	178 274	0	E0	P101	–	–	–
0467	ARTICLES, EXPLOSIVE, N.O.S.	1.2D	–	–	178 274	0	E0	P101	–	–	–
0468	ARTICLES, EXPLOSIVE, N.O.S.	1.2E	–	–	178 274	0	E0	P101	–	–	–
0469	ARTICLES, EXPLOSIVE, N.O.S.	1.2F	–	–	178 274	0	E0	P101	–	–	–
0470	ARTICLES, EXPLOSIVE, N.O.S.	1.3C	–	–	178 274	0	E0	P101	–	–	–
0471	ARTICLES, EXPLOSIVE, N.O.S.	1.4E	–	–	178 274	0	E0	P101	–	–	–
0472	ARTICLES, EXPLOSIVE, N.O.S.	1.4F	–	–	178 274	0	E0	P101	–	–	–
0473	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1A	–	–	178 274	0	E0	P101	–	–	–
0474	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1C	–	–	178 274	0	E0	P101	–	–	–
0475	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1D	–	–	178 274	0	E0	P101	–	–	–
0476	SUBSTANCES, EXPLOSIVE, N.O.S.	1.1G	–	–	178 274	0	E0	P101	–	–	–
0477	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3C	–	–	178 274	0	E0	P101	–	–	–
0478	SUBSTANCES, EXPLOSIVE, N.O.S.	1.3G	–	–	178 274	0	E0	P101	–	–	–
0479	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4C	–	–	178 274	0	E0	P101	–	–	–
0480	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4D	–	–	178 274	0	E0	P101	–	–	–
0481	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4S	–	–	178 274 347	0	E0	P101	–	–	–
0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.	1.5D	–	–	178 274	0	E0	P101	–	–	–
0483	CYCLOTRIMETHYLENE-TRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITIZED	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0484	CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), DESENSITIZED	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0485	SUBSTANCES, EXPLOSIVE, N.O.S.	1.4G	–	–	178 274	0	E0	P101	–	–	–
0486	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)	1.6N	–	–	–	0	E0	P101	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 03 SW1	–	–	0463
–	–	–	F-B, S-X	Category 03 SW1	–	–	0464
–	–	–	F-B, S-X	Category 03 SW1	–	–	0465
–	–	–	F-B, S-X	Category 03 SW1	–	–	0466
–	–	–	F-B, S-X	Category 03 SW1	–	–	0467
–	–	–	F-B, S-X	Category 03 SW1	–	–	0468
–	–	–	F-B, S-X	Category 03 SW1	–	–	0469
–	–	–	F-B, S-X	Category 03 SW1	–	–	0470
–	–	–	F-B, S-X	Category 03 SW1	–	–	0471
–	–	–	F-B, S-X	Category 03 SW1	–	–	0472
–	–	–	F-B, S-Y	Category 05 SW1	–	–	0473
–	–	–	F-B, S-Y	Category 04 SW1	–	–	0474
–	–	–	F-B, S-Y	Category 04 SW1	–	–	0475
–	–	–	F-B, S-Y	Category 03 SW1	–	–	0476
–	–	–	F-B, S-Y	Category 04 SW1	–	–	0477
–	–	–	F-B, S-Y	Category 03 SW1	–	–	0478
–	–	–	F-B, S-Y	Category 02 SW1	–	–	0479
–	–	–	F-B, S-Y	Category 02 SW1	–	–	0480
–	–	–	F-B, S-Y	Category 01 SW1	–	–	0481
–	–	–	F-B, S-Y	Category 03 SW1	–	–	0482
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive which will become more sensitive if the wetting or desensitizing agents are lost.	0483
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mass detonating explosive which will become more sensitive if the wetting or desensitizing agents are lost.	0484
–	–	–	F-B, S-Y	Category 02 SW1	–	–	0485
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0486

Part 3 – Dangerous Goods List, special provisions and exceptions

Chapter 3.2 – Dangerous Goods List

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
0487	SIGNALS, SMOKE	1.3G	–	–	–	0	E0	P135	–	–	–
0488	AMMUNITION, PRACTICE	1.3G	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0489	DINITROGLYCOURIL (DINGU)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0490	NITROTRIAZOLONE (NTO)	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0491	CHARGES, PROPELLING	1.4C	–	–	–	0	E0	P143	PP76	–	–
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.3G	–	–	–	0	E0	P135	–	–	–
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1.4G	–	–	–	0	E0	P135	–	–	–
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1.4D	–	–	–	0	E0	P101	–	–	–
0495	PROPELLANT, LIQUID	1.3C	–	–	224	0	E0	P115	PP53 PP54 PP57 PP58	–	–
0496	OCTONAL	1.1D	–	–	–	0	E0	P112 (b) or (c)	–	–	–
0497	PROPELLANT, LIQUID	1.1C	–	–	224	0	E0	P115	PP53 PP54 PP57 PP58	–	–
0498	PROPELLANT, SOLID	1.1C	–	–	–	0	E0	P114 (b)	–	–	–
0499	PROPELLANT, SOLID	1.3C	–	–	–	0	E0	P114 (b)	–	–	–
0500	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.4S	–	–	347	0	E0	P131	–	–	–
0501	PROPELLANT, SOLID	1.4C	–	–	–	0	E0	P114 (b)	–	–	–
0502	ROCKETS with inert head	1.2C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–
0503	SAFETY DEVICES, PYROTECHNIC	1.4G	–	–	235 289	0	E0	P135	–	–	–
0504	1H-TETRAZOLE	1.1D	–	–	–	0	E0	P112 (c)	PP48	–	–
0505	SIGNALS, DISTRESS, ship	1.4G	–	–	–	0	E0	P135	–	–	–
0506	SIGNALS, DISTRESS, ship	1.4S	–	–	–	0	E0	P135	–	–	–
0507	SIGNALS, SMOKE	1.4S	–	–	–	0	E0	P135	–	–	–
0508	1-HYDROXYBENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass	1.3C	–	–	–	0	E0	P114 (b)	PP48 PP50	–	–
0509	POWDER, SMOKELESS	1.4C	–	–	–	0	E0	P114(b)	PP48	–	–
0510	ROCKET MOTORS	1.4C	–	–	–	0	E0	P130 LP101	PP67 L1	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0487
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0488
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0489
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0490
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0491
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0492
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0493
–	–	–	F-B, S-X	Category 02 SW1 SW30	–	See glossary of terms in appendix B.	0494
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0495
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance. Mixtures of mass detonating explosives.	0496
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0497
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0498
–	–	–	F-B, S-Y	Category 04 SW1	–	See glossary of terms in appendix B.	0499
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0500
–	–	–	F-B, S-Y	Category 02 SW1	–	See glossary of terms in appendix B.	0501
–	–	–	F-B, S-X	Category 03 SW1	–	See glossary of terms in appendix B.	0502
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0503
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0504
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0505
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0506
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0507
–	–	–	F-B, S-Y	Category 04 SW1	–	Substance.	0508
–	–	–	F-B, S-Y	Category 02 SW1	–	See glossary of terms in appendix B.	0509
–	–	–	F-B, S-X	Category 02 SW1	–	See glossary of terms in appendix B.	0510

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
■ 0511	DETONATORS, ELECTRONIC programmable for blasting	1.1B	–	–	–	0	E0	P131	–	–	–
■ 0512	DETONATORS, ELECTRONIC programmable for blasting	1.4B	–	–	–	0	E0	P131	–	–	–
■ 0513	DETONATORS, ELECTRONIC programmable for blasting	1.4S	–	–	347	0	E0	P131	–	–	–
1001	ACETYLENE, DISSOLVED	2.1	–	–	–	0	E0	P200	–	–	–
△ 1002	AIR, COMPRESSED	2.2	–	–	392	120 mL	E1	P200	–	–	–
1003	AIR, REFRIGERATED LIQUID	2.2	5.1	–	–	0	E0	P203	–	–	–
1005	AMMONIA, ANHYDROUS	2.3	8 P	–	23 379	0	E0	P200	–	–	–
△ 1006	ARGON, COMPRESSED	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
1008	BORON TRIFLUORIDE	2.3	8	–	373	0	E0	P200	–	–	–
1009	BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1010	BUTADIENES, STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, containing more than 40% butadienes	2.1	–	–	386	0	E0	P200	–	–	–
1011	BUTANE	2.1	–	–	392	0	E0	P200	–	–	–
1012	BUTYLENE	2.1	–	–	–	0	E0	P200	–	–	–
△ 1013	CARBON DIOXIDE	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
1016	CARBON MONOXIDE, COMPRESSED	2.3	2.1	–	974	0	E0	P200	–	–	–
1017	CHLORINE	2.3	5.1/8 P	–	–	0	E0	P200	–	–	–
1018	CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1020	CHLOROPENTAFLUORO-ETHANE (REFRIGERANT GAS R 115)	2.2	–	–	–	120 mL	E1	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0511
–	–	–	F-B, S-X	Category 05 SW1	–	See glossary of terms in appendix B.	0512
–	–	–	F-B, S-X	Category 01 SW1	–	See glossary of terms in appendix B.	0513
–	–	–	<u>F-D</u> , <u>S-U</u>	Category D SW1 SW2	SG46	Flammable gas with slight odour. Explosive limits: 2.1% to 80%. Lighter than air (0.907). Rough handling and exposure to local heating should be avoided, since these conditions may result in delayed explosion. Empty cylinders should be carried with the same precautions as filled cylinders.	1001
–	–	–	F-C, S-V	Category A	–	Non-flammable gas.	1002
–	T75	TP5 TP22	<u>F-C</u> , S-W	Category D	–	Liquefied, non-flammable gas. Strong oxidizing agent. Mixtures of liquid air with combustible materials or oils may explode. May ignite organic materials.	1003
–	T50	–	F-C, S-U	Category D SW2	SGG18 SG35 SG46	Liquefied, non-flammable, toxic and corrosive gas with a pungent odour. Lighter than air (0.6). Suffocating in low concentrations. Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas. Reacts violently with acids. Highly irritating to skin, eyes and mucous membranes.	1005
–	–	–	F-C, S-V	Category A	–	Inert gas. Heavier than air (1.4).	1006
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas. Forms dense white corrosive fumes in moist air. Reacts violently with water, evolving hydrogen fluoride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass and most metals. Much heavier than air (2.35). Highly irritating to skin, eyes and mucous membranes.	1008
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with a slight odour. Much heavier than air (5.2).	1009
–	T50	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable gas with an unpleasant odour. Explosive limits: 2% to 12%. Heavier than air (1.84).	1010
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 1.8% to 8.4%. Heavier than air (2.11).	1011
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 1.6% to 10%. Heavier than air (2.0).	1012
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Heavier than air (1.5). Cannot remain in the liquid state above 31°C.	1013
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, odourless gas. Explosive limits: 12% to 75%. Slightly lighter than air (0.97).	1016
–	T50	TP19	F-C, S-U	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive yellow gas with a pungent odour. Corrosive to glass and to most metals. Much heavier than air (2.4). Highly irritating to skin, eyes and mucous membranes. Powerful oxidant which may cause fire.	1017
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with a chloroform-like odour. Much heavier than air (3.0).	1018
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (5.4).	1020

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1021	1-CHLORO-1,2,2,2-TETRA-FLUOROETHANE (REFRIGERANT GAS R 124)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1022	CHLOROTRIFLUOROMETHANE (REFRIGERANT GAS R 13)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1023	COAL GAS, COMPRESSED	2.3	2.1	–	–	0	E0	P200	–	–	–
1026	CYANOGEN	2.3	2.1	–	–	0	E0	P200	–	–	–
1027	CYCLOPROPANE	2.1	–	–	–	0	E0	P200	–	–	–
1028	DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1029	DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)	2.1	–	–	–	0	E0	P200	–	–	–
1032	DIMETHYLAMINE, ANHYDROUS	2.1	–	–	–	0	E0	P200	–	–	–
1033	DIMETHYL ETHER	2.1	–	–	–	0	E0	P200	–	–	–
1035	ETHANE	2.1	–	–	–	0	E0	P200	–	–	–
1036	ETHYLAMINE	2.1	–	–	912	0	E0	P200	–	–	–
1037	ETHYL CHLORIDE	2.1	–	–	–	0	E0	P200	–	–	–
1038	ETHYLENE, REFRIGERATED LIQUID	2.1	–	–	–	0	E0	P203	–	–	–
1039	ETHYL METHYL ETHER	2.1	–	–	–	0	E0	P200	–	–	–
1040	ETHYLENE OXIDE or ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50°C	2.3	2.1	–	342	0	E0	P200	–	–	–
1041	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide	2.1	–	–	–	0	E0	P200	–	–	–
1043	FERTILIZER AMMONIATING SOLUTION with free ammonia	2.2	–	–	–	120 mL	E0	P200	–	–	–
1044	FIRE EXTINGUISHERS with compressed or liquefied gas	2.2	–	–	225	120 mL	E0	P003	PP91	–	–
1045	FLUORINE, COMPRESSED	2.3	5.1/8	–	–	0	E0	P200	–	–	–
△ 1046	HELIUM, COMPRESSED	2.2	–	–	378 392 974	120 mL	E1	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (4.7).	1021
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (3.6). Cannot remain in the liquid state above 29°C.	1022
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic gas. Explosive limits: 4.5% to 40%. Much lighter than air (0.4 to 0.6).	1023
–	–	–	F-D, S-U	Category D SW2	–	Liquefied, flammable, toxic gas with a pungent odour. Explosive limits: 6.6% to 43%. Heavier than air (1.9).	1026
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Heavier than air.	1027
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (4.2).	1028
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with a chloroform-like odour. Much heavier than air (3.6). Boiling point: 9°C.	1029
–	T50	–	F-D, S-U	Category B SW2	–	Flammable gas. Explosive limits: 5% to 17%. Much heavier than air (2.3).	1030
–	T50	–	F-D, S-U	Category D SW2	SG35	Liquefied, flammable gas with an ammonia-like odour. Heavier than air (1.6). Boiling point: 7°C. Suffocating in low concentrations.	1032
–	T50	–	F-D, S-U	Category B SW2	–	Flammable gas with a chloroform-like odour. Heavier than air (1.6).	1033
–	–	–	F-D, S-U	Category E SW2	–	Flammable gas. Explosive limits: 3% to 16%. Slightly heavier than air (1.05).	1035
–	T50	–	F-D, S-U	Category D SW2	SG35	Liquefied, flammable gas with an ammonia-like odour. Explosive limits: 3.5% to 14%. Heavier than air (1.6). Boiling point: 17°C.	1036
–	T50	–	F-D, S-U	Category B SW2	–	Liquefied, flammable gas. Explosive limits: 3.5% to 15%. Much heavier than air (2.2). Boiling point: 13°C.	1037
–	T75	TP5	F-D, S-U	Category D SW2	–	Liquefied, flammable gas. Explosive limits: 3% to 34%. Lighter than air (0.98).	1038
–	–	–	F-D, S-U	Category B SW2	–	Liquefied, flammable gas. Explosive limits: 2% to 10%. Much heavier than air (2.1). Boiling point: 11°C.	1039
–	T50	TP20 TP90	F-D, S-U	Category D SW2	–	Liquefied, flammable, toxic gases with an ether-like odour. Heavier than air (1.5). Boiling point: 11°C.	1040
–	T50	–	F-D, S-U	Category B SW2	–	Liquefied, flammable gas with an ether-like odour. Heavier than air (1.5).	1041
–	–	–	F-C, S-V	Category E SW2	–	Non-flammable aqueous solution of ammonium nitrate, calcium nitrate, urea and their mixtures containing ammonia gas. Emits toxic vapours of ammonia.	1043
–	–	–	F-C, S-V	Category A	–	Fire extinguishers, containing compressed or liquefied gases under pressure above 175 kPa for expelling fire-extinguishing contents.	1044
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive pale yellowish gas with a pungent odour. Powerful oxidant which may cause fire. Reacts with water or moist air to produce toxic and corrosive fumes. Corrosive to glass and to most metals. Will explode when mixed with hydrogen. Heavier than air (1.3). Highly irritating to skin, eyes and mucous membranes.	1045
–	–	–	F-C, S-V	Category A	–	Inert gas. Much lighter than air (0.14).	1046



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1048	HYDROGEN BROMIDE, ANHYDROUS	2.3	8	–	–	0	E0	P200	–	–	–
1049	HYDROGEN, COMPRESSED	2.1	–	–	392 974	0	E0	P200	–	–	–
1050	HYDROGEN CHLORIDE, ANHYDROUS	2.3	8	–	–	0	E0	P200	–	–	–
1051	HYDROGEN CYANIDE, STABILIZED containing less than 3% water	6.1	3 P	I	386	0	E0	P200	–	–	–
1052	HYDROGEN FLUORIDE, ANHYDROUS	8	6.1	I	–	0	E0	P200	–	–	–
1053	HYDROGEN SULPHIDE	2.3	2.1	–	–	0	E0	P200	–	–	–
1055	ISOBUTYLENE	2.1	–	–	–	0	E0	P200	–	–	–
△ 1056	KRYPTON, COMPRESSED	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
1057	LIGHTERS or LIGHTER REFILLS containing flammable gas	2.1	–	–	201	0	E0	P002	PP84	–	–
△ 1058	LIQUEFIED GASES non-flammable, charged with nitrogen, carbon dioxide or air	2.2	–	–	392	120 mL	E1	P200	–	–	–
1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1061	METHYLAMINE, ANHYDROUS	2.1	–	–	–	0	E0	P200	–	–	–
1062	METHYL BROMIDE with not more than 2.0% chloropicrin	2.3	–	–	23	0	E0	P200	–	–	–
1063	METHYL CHLORIDE (REFRIGERANT GAS R 40)	2.1	–	–	–	0	E0	P200	–	–	–
1064	METHYL MERCAPTAN	2.3	2.1 P	–	–	0	E0	P200	–	–	–
△ 1065	NEON, COMPRESSED	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
△ 1066	NITROGEN, COMPRESSED	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
1067	DINITROGEN TETROXIDE (NITROGEN DIOXIDE)	2.3	5.1/8	–	–	0	E0	P200	–	–	–
1069	NITROSYL CHLORIDE	2.3	8	–	–	0	E0	P200	–	–	–
1070	NITROUS OXIDE	2.2	5.1	–	–	0	E0	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with a pungent odour. Highly corrosive in the presence of water. Much heavier than air (3.6). Highly irritating to the skin, eyes and mucous membranes.	1048
–	–	–	F-D, S-U	Category E SW2	SG46	Flammable, odourless gas. Explosive limits: 4% to 75%. Much lighter than air (0.07).	1049
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive colourless gas with a pungent odour. Highly corrosive in the presence of water. Heavier than air (1.3). Highly irritating to skin, eyes and mucous membranes.	1050
–	–	–	F-E, <u>S-D</u>	Category D SW1 SW2	–	Very volatile, colourless flammable liquid, evolving extremely toxic flammable vapours. Boiling point: 26°C. Flashpoint: –18°C c.c. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1051
–	T10	TP2	F-C, S-U	Category D SW2	SGG1a SG36 SG49	Colourless, fuming and highly volatile liquid with an irritating and pungent odour. Highly corrosive to metals and glass in the presence of moisture. Boiling point: 20°C. Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin, eyes and mucous membranes.	1052
–	–	–	F-D, S-U	Category D SW2	–	Liquefied, flammable, toxic gas with a foul odour. Heavier than air (1.2).	1053
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 1.8% to 8.8%. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air (1.94).	1055
–	–	–	F-C, S-V	Category A SW1	–	Inert gas. Much heavier than air (2.9).	1056
–	–	–	F-D, S-U	Category B SW2	–	Lighters or lighter refills containing butane or other flammable gas.	1057
–	–	–	F-C, S-V	Category A	–	Non-flammable gases or mixtures of such gases which are used for filling receptacles from which the contents are to be dispersed under pressure. Vapour may be heavier than air.	1058
–	T50	–	F-D, S-U	Category B SW1 SW2	–	Flammable gas. Explosive limits: 3% to 11%. Heavier than air (1.4).	1060
–	T50	–	F-D, S-U	Category B SW2	SG35	Liquefied, flammable gas with an ammonia-like odour. Heavier than air (1.09).	1061
–	T50	–	F-C, S-U	Category D SW2	–	Liquefied, toxic gas with a chloroform-like odour. Much heavier than air (3.3). Boiling point: 4.5°C. Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas.	1062
–	T50	–	F-D, S-U	Category D SW2	–	Liquefied, flammable gas. Explosive limits: 8% to 20%. Heavier than air (1.8).	1063
–	T50	–	F-D, S-U	Category D SW2	–	Liquefied, flammable, toxic gas with a foul odour. Heavier than air (1.7). Boiling point: 6°C.	1064
–	–	–	F-C, S-V	Category A	–	Inert gas. Lighter than air (0.7).	1065
–	–	–	F-C, S-V	Category A	–	Non-flammable, odourless gas. Lighter than air (0.97).	1066
–	T50	TP21	F-C, S-W	Category D SW2	SG6 SG19	Liquefied, non-flammable, toxic and corrosive gas which gives off brown vapour with a pungent odour. Strong oxidizing agent. Boiling point: 21°C. Highly irritating to skin, eyes and mucous membranes. Toxic by inhalation, with delayed effect, similar to phosgene.	1067
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic yellow gas with an irritating odour. Corrosive to steel. Much heavier than air (2.3). Highly irritating to skin, eyes and mucous membranes.	1069
–	–	–	<u>F-C</u> , S-W	Category A SW2	–	Non-flammable gas. Strong oxidizing agent. Heavier than air (1.5).	1070

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1071	OIL GAS, COMPRESSED	2.3	2.1	–	–	0	E0	P200	–	–	–
1072	OXYGEN, COMPRESSED	2.2	5.1	–	355	0	E0	P200	–	–	–
1073	OXYGEN, REFRIGERATED LIQUID	2.2	5.1	–	–	0	E0	P203	–	–	–
1075	PETROLEUM GASES, LIQUEFIED	2.1	–	–	392	0	E0	P200	–	–	–
1076	PHOSGENE	2.3	8	–	–	0	E0	P200	–	–	–
1077	PROPYLENE	2.1	–	–	–	0	E0	P200	–	–	–
1078	REFRIGERANT GAS, N.O.S.	2.2	–	–	274	120 mL	E1	P200	–	–	–
1079	SULPHUR DIOXIDE	2.3	8	–	–	0	E0	P200	–	–	–
△ 1080	SULPHUR HEXAFLUORIDE	2.2	–	–	392	120 mL	E1	P200	–	–	–
1081	TETRAFLUOROETHYLENE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1082	TRIFLUOROCHLORO-ETHYLENE, STABILIZED (REFRIGERANT GAS R 1113)	2.3	2.1	–	386	0	E0	P200	–	–	–
1083	TRIMETHYLAMINE, ANHYDROUS	2.1	–	–	–	0	E0	P200	–	–	–
1085	VINYL BROMIDE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1086	VINYL CHLORIDE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1087	VINYL METHYL ETHER, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1088	ACETAL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1089	ACETALDEHYDE	3	–	I	–	0	E0	P001	–	–	–
1090	ACETONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1091	ACETONE OILS	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic gas. A mixture of hydrocarbons and carbon monoxide.	1071
–	–	–	<u>F-C, S-W</u>	Category A	–	Non-flammable, odourless gas. Strong oxidizing agent. Heavier than air (1.1).	1072
–	T75	TP5 TP22	<u>F-C, S-W</u>	Category D	–	Liquefied, non-flammable gas. Strong oxidizing agent. Mixtures of liquid oxygen with acetylene or oils may explode.	1073
–	T50	–	<u>F-D, S-U</u>	Category E SW2	–	Flammable hydrocarbon gases or mixtures obtained from natural gas or by distillation of mineral oils or coal, etc. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air.	1075
–	–	–	F-C, S-U	Category D SW2	–	Liquefied, non-flammable, toxic and corrosive gas with a foul odour. Corrosive in the presence of water. Much heavier than air (3.5). Boiling point: 8°C. Highly irritating to skin, eyes and mucous membranes. This gas is particularly dangerous in that it may be inhaled without immediate effect but can cause severe damage and death after a few hours' delay.	1076
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 2% to 11.1%. Heavier than air (1.5).	1077
–	T50	–	F-C, S-V	Category A	–	Different chlorofluorohydrocarbons or other non-flammable, non-toxic gases considered as refrigerant agents.	1078
–	T50	TP19	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with a pungent odour. Much heavier than air (2.3). Highly irritating to skin, eyes and mucous membranes.	1079
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable, odourless gas. Much heavier than air (5.1).	1080
–	–	–	F-D, S-U	Category E SW1 SW2	–	Liquefied, flammable gas. Explosive limits: 11% to 60%. Much heavier than air (3.5). Irritating to skin, eyes and mucous membranes.	1081
–	T50	–	F-D, S-U	Category D SW1 SW2	–	Flammable, toxic, odourless gas. Explosive limits: 8.4% to 38.7%. Much heavier than air (4.0).	1082
–	T50	–	F-D, S-U	Category B SW2	SG35	Liquefied, flammable gas with a fishy odour. Explosive limits: 2% to 12%. Much heavier than air (2.1). Boiling point: 3°C.	1083
–	T50	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable gas. Much heavier than air (3.7). Boiling point: 16°C.	1085
–	T50	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable gas. Explosive limits: 4% to 31%. Much heavier than air (2.2).	1086
–	T50	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable gas. Explosive limits: 2.6% to 39%. Heavier than air (2.0). Boiling point: 6°C.	1087
–	T4	TP1	F-E, S-D	Category E	–	Colourless, volatile liquid with an agreeable odour. Flashpoint: below –18°C c.c. Explosive limits: 1.6% to 10.4%. Miscible with water.	1088
–	T11	TP2 TP7	F-E, S-D	Category E	–	Colourless liquid with a pungent, fruity odour. Flashpoint: –27°C c.c. Explosive limits: 4% to 57%. Boiling point: 21°C. Miscible with water. Harmful if swallowed or by inhalation.	1089
–	T4	TP1	F-E, S-D	Category E	–	Colourless, clear liquid, with a characteristic mint-like odour. Flashpoint: –20°C to –18°C c.c. Explosive limits: 2.5% to 13%. Miscible with water.	1090
–	T4	TP1 TP8	F-E, S-D	Category B	–	Light yellow to brownish, oily liquids. Flashpoint: –4°C to 8°C c.c. Immiscible with water.	1091

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 1092	ACROLEIN, STABILIZED	6.1	3 P	I	354 386	0	E0	P601	–	–	–
1093	ACRYLONITRILE, STABILIZED	3	6.1	I	386	0	E0	P001	–	–	–
△ 1098	ALLYL ALCOHOL	6.1	3 P	I	354	0	E0	P602	–	–	–
1099	ALLYL BROMIDE	3	6.1 P	I	–	0	E0	P001	–	–	–
1100	ALLYL CHLORIDE	3	6.1	I	–	0	E0	P001	–	–	–
1104	AMYL ACETATES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1105	PENTANOLS	3	–	II	–	1 L	E2	P001	–	IBC02	–
1105	PENTANOLS	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1106	AMYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1106	AMYLAMINE	3	8	III	223	5 L	E1	P001	–	IBC03	–
1107	AMYL CHLORIDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1108	1-PENTENE ( <i>n</i> -AMYLENE)	3	–	I	–	0	E3	P001	–	–	–
1109	AMYL FORMATES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1110	<i>n</i> -AMYL METHYL KETONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1111	AMYL MERCAPTAN	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T22	TP2 TP7 TP13	F-E, <u>S-D</u>	Category D SW1 SW2	–	Colourless or yellow liquid with a most irritating odour. Flashpoint: –26°C c.c. Explosive limits: 2.8% to 31%. Boiling point: 52°C. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1092
–	T14	TP2 TP13	F-E, S-D	Category D SW1 SW2	–	Colourless, mobile liquid with a mild pungent odour. Flashpoint: –5°C c.c. Explosive limits: 3% to 17%. Partially miscible with water. Toxic if swallowed, by skin contact or by inhalation. Practice has shown that this substance may leak from packagings that ordinarily are leakproof to other chemicals.	1093
–	T20	TP2 TP13	F-E, <u>S-D</u>	Category D SW2	–	Colourless liquid with a pungent mustard-like odour. Flashpoint: 21°C c.c. Explosive limits: 2.5% to 18%. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1098
–	T14	TP2 TP13	F-E, <u>S-D</u>	Category B SW2	SGG10	Colourless to light yellow liquid with an irritating odour. Flashpoint: –1°C c.c. Explosive limits: 4.4% to 7.3%. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1099
–	T14	TP2 TP13	F-E, S-D	Category E SW2	SGG10	Colourless liquid with an unpleasant pungent odour. Flashpoint: –29°C c.c. Explosive limits: 3.3% to 11.1%. Boiling point: 44°C. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	1100
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids with a pear- or banana-like odour. <i>normal</i> -AMYL ACETATE: flashpoint 25°C c.c. <i>secondary</i> -AMYL ACETATE: flashpoint 32°C c.c. Immiscible with water.	1104
–	T4	TP1 TP29	F-E, S-D	Category B	–	Colourless liquids with a strong odour. Immiscible with water. <i>tertiary</i> -AMYL ALCOHOL: flashpoint 19°C to 21°C c.c.	1105
–	T2	TP1	F-E, S-D	Category A	–	See entry above. Explosive limits: 1.2% to 10.5%.	1105
–	T7	TP1	F-E, S-C	Category B	SG35	Colourless, clear liquids. Explosive limits: 2.2% to 22%. <i>normal</i> -AMYLAMINE (1-PENTYLAMINE): flashpoint 4°C c.c. <i>tertiary</i> -AMYLAMINE (3-PENTYLAMINE): flashpoint 2°C c.c. Miscible with water. Harmful by inhalation. Cause burns to skin, eyes and mucous membranes.	1106
–	T4	TP1	F-E, S-C	Category A	SG35	See entry above. However, irritating to skin, eyes and mucous membranes.	1106
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless or light brown liquids with an aromatic odour. <i>n</i> -AMYL CHLORIDE: flashpoint 11°C. Explosive limits: <i>normal</i> -AMYL CHLORIDE 1.4% to 8.6%. Immiscible with water.	1107
–	T11	TP2	F-E, S-D	Category E	–	Colourless, volatile liquid with a disagreeable odour. Flashpoint: –20°C c.c. Explosive limits: 1.4% to 8.7%. Boiling point: 30°C. Immiscible with water. Irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.	1108
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids with a pleasant odour. <i>normal</i> -AMYL FORMATE: flashpoint 27°C c.c. ISOAMYL FORMATE: flashpoint 26°C c.c. Explosive limits: 1.7% to 10%. Immiscible with water.	1109
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 49°C c.c. Immiscible with water.	1110
–	T4	TP1	F-E, S-D	Category B	SG50 SG57	Colourless to yellow liquids with an extremely disagreeable garlic-like odour. <i>tertiary</i> -AMYL MERCAPTAN: flashpoint –7°C c.c. <i>normal</i> -AMYL MERCAPTAN: flashpoint 19°C c.c. ISOAMYL MERCAPTAN: flashpoint 18°C c.c. Immiscible with water. These substances may leak from packagings that ordinarily are leakproof to other chemicals.	1111

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1112	AMYL NITRATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1113	AMYL NITRITE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1114	BENZENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1120	BUTANOLS	3	–	II	–	1 L	E2	P001	–	IBC02	–
1120	BUTANOLS	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1123	BUTYL ACETATES	3	–	II	–	1 L	E2	P001	–	IBC02	–
1123	BUTYL ACETATES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1125	<i>n</i> -BUTYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1126	1-BROMOBUTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1127	CHLOROBUTANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
1128	<i>n</i> -BUTYL FORMATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1129	BUTYRALDEHYDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1130	CAMPHOR OIL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1131	CARBON DISULPHIDE	3	6.1	I	–	0	E0	P001	PP31	–	–
1133	ADHESIVES containing flammable liquid	3	–	I	–	500 mL	E3	P001	–	–	–
1133	ADHESIVES containing flammable liquid	3	–	II	–	5 L	E2	P001	PP1	IBC02	–
1133	ADHESIVES containing flammable liquid	3	–	III	223 955	5 L	E1	P001 LP01	PP1	IBC03	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5					
–	T2	TP1	F-E, S-D	Category A SW2	–	Colourless liquids with an ether-like odour. <i>normal</i> -AMYL NITRATE: flashpoint 48°C c.c. ISOAMYL NITRATE: flashpoint 52°C c.c. Immiscible with water. Harmful by inhalation.	1112
–	T4	TP1	F-E, S-D	Category E SW2	–	Yellowish, transparent, volatile liquid with a fragrant fruity odour. Flashpoint of the pure ISOAMYL NITRITE: –20°C c.c. Flashpoint of pure <i>normal</i> -AMYL NITRITE: 10°C c.c. Decomposes on exposure to air, light or water, evolving toxic nitrous fumes which are orange in colour. Immiscible with water. Harmful by inhalation.	1113
–	T4	TP1	F-E, S-D	Category B SW2	–	Colourless liquid with a characteristic odour. Flashpoint: –11°C c.c. Explosive limits: 1.4% to 8%. Freezing point 5°C; flashes below its freezing point. Immiscible with water. Narcotic. Exposure to this substance may produce serious chronic effects of a toxic nature.	1114
–	T4	TP1 TP29	F-E, S-D	Category B	–	Colourless liquids with a disagreeable odour. Explosive limits: <i>normal</i> -BUTANOL 1.4% to 11.2%. <i>secondary</i> -BUTANOL 1.7% to 9.8%. <i>tertiary</i> -BUTANOL 2.4% to 8%. <i>tertiary</i> -BUTANOL solidifies at about 25°C. <i>normal</i> -BUTANOL is immiscible with water. <i>secondary</i> -BUTANOL is immiscible with water. <i>tertiary</i> -BUTANOL is miscible with water. Irritating to skin, eyes and mucous membranes.	1120
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1120
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids with a pineapple-like odour. Immiscible with water. <i>normal</i> -BUTYL ACETATE: flashpoint 27°C c.c. Explosive limits: 1.5% to 15%.	1123
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1123
–	T7	TP1	F-E, S-C	Category B SW2	SG35	Flashpoint: –9°C c.c. Explosive limits: 1.7% to 10%. Colourless, volatile liquid with an ammonia-like odour. Miscible with water. Causes burns to skin, eyes and mucous membranes.	1125
–	T4	TP1	F-E, S-D	Category B SW2	SGG10	Colourless to pale straw-coloured, clear liquid. Flashpoint: 13°C c.c. Explosive limits: 2.6% to 6.6%. Immiscible with water. Narcotic.	1126
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquids. <i>tertiary</i> -BUTYL CHLORIDE: flashpoint –30°C c.c., boiling point 51°C. Immiscible with water.	1127
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 18°C c.c. Explosive limits: 1.6% to 8.3%. Immiscible with water.	1128
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a characteristic pungent odour. Flashpoint: –7°C c.c. Explosive limits: 1.4% to 12.5%. Immiscible with water.	1129
–	T2	TP1	F-E, S-E	Category A	–	Colourless oil with a characteristic odour. Flashpoint: 47°C c.c. Immiscible with water.	1130
–	T14	TP2 TP7 TP13	F-E, S-D	Category D SW2	SG63	Colourless or faintly yellow, clear liquid, almost odourless when pure; the commercial substance has a strong disagreeable odour. Flashpoint: –30°C c.c. Explosive limits: 1% to 60%. Boiling point: 46°C. Ignition temperature: 100°C. Immiscible with water. Vapours are heavier than air, will travel a considerable distance to a source of ignition and will flash back. Vapours may be ignited by contact with an ordinary light bulb or a warm steam pipe. Toxic if swallowed, by skin contact or by inhalation.	1131
–	T11	TP1 TP8 TP27	F-E, S-D	Category E	–	Adhesives are solutions of gums, resins, etc., usually volatile due to the solvents. Miscibility with water depends upon their composition.	1133
–	T4	TP1 TP8	F-E, S-D	Category B	–	See entry above.	1133
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1133



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1134	CHLOROBENZENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
△ 1135	ETHYLENE CHLOROHYDRIN	6.1	3	I	354	0	E0	P602	–	–	–
1136	COAL TAR DISTILLATES, FLAMMABLE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1136	COAL TAR DISTILLATES, FLAMMABLE	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under-coating, drum or barrel lining)	3	–	I	–	500 mL	E3	P001	–	–	–
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under-coating, drum or barrel lining)	3	–	II	–	5 L	E2	P001	–	IBC02	–
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under-coating, drum or barrel lining)	3	–	III	955	5 L	E1	P001 LP01	–	IBC03	–
△ 1143	CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED	6.1	3 P	I	324 354 386	0	E0	P602	–	–	–
1144	CROTONYLENE	3	–	I	–	0	E3	P001	–	–	–
1145	CYCLOHEXANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1146	CYCLOPENTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1147	DECAHYDRONAPHTHALENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1148	DIACETONE ALCOHOL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1148	DIACETONE ALCOHOL	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1149	DIBUTYL ETHERS	3	–	III	–	5 L	E1	P001	–	IBC03	–
1150	1,2-DICHLOROETHYLENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1152	DICHLOROPENTANES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-D	Category A	SGG10	Colourless liquid with an almond-like odour. Flashpoint: 29°C c.c. Explosive limits: 1.3% to 11%. Immiscible with water.	1134
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless flammable liquid with a faint, ethereal odour. Flashpoint: 60°C o.c. Explosive limits: 4.9% to 15.9%. Miscible with water. When involved in a fire, evolves extremely toxic (phosgene) and corrosive (hydrogen chloride) fumes. Highly toxic if swallowed, by skin contact or by inhalation.	1135 △
–	T4	TP1	F-E, <u>S-E</u>	Category B	–	Immiscible with water. May form extremely sensitive compounds with heavy metals or their salts.	1136
–	T4	TP1 TP29	F-E, <u>S-E</u>	Category A	–	See entry above.	1136
–	T11	TP1 TP8 TP27	F-E, <u>S-E</u>	Category E	–	Miscibility with water depends upon the composition.	1139
–	T4	TP1 TP8	F-E, <u>S-E</u>	Category B	–	See entry above.	1139
–	T2	TP1	F-E, <u>S-E</u>	Category A	–	See entry above.	1139
–	T20	TP2 TP13	F-E, <u>S-D</u>	Category D SW1 SW2	–	Colourless, mobile liquid with a pungent odour. Turns to pale yellow in contact with light and air. Miscible with water. Flashpoint: 13°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. May cause lung damage.	1143 △
–	T11	TP2	F-E, S-D	Category E	–	Colourless liquid. Flashpoint: –53°C c.c. Lower explosive limit: 1.4%. Boiling point: 27°C. Immiscible with water.	1144
–	T4	TP1	F-E, S-D	Category E	–	Colourless, mobile liquid with a sweet aromatic odour. Flashpoint: –18°C c.c. Explosive limits: 1.2% to 8.4%. Immiscible with water. Slightly irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.	1145
–	T7	TP1	F-E, S-D	Category E	–	Colourless liquid with a pungent odour. Flashpoint: below –18°C c.c. Explosive limits: 1.4% to 8%. Boiling point: 49°C. Immiscible with water. Irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.	1146
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids with an aromatic odour. Flashpoint: 52°C to 57°C c.c. Explosive limits: 0.7% to 4.9%. Immiscible with water. Harmful by inhalation.	1147
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Explosive limits: 1.4% to 8%. Miscible with water.	1148
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1148
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids with a mild ether-like odour. Explosive limits: 0.9% to 8.5%. Immiscible with water. <i>normal</i> -DIBUTYL ETHER: flashpoint 25°C c.c.	1149
–	T7	TP2	F-E, S-D	Category B	SGG10	Colourless liquid with a chloroform-like odour. Flashpoint: 6°C c.c. Explosive limits: 5.6% to 16%. Immiscible with water. Boiling range: 48°C to 61°C.	1150
–	T2	TP1	F-E, S-D	Category A	SGG10	Light yellow liquids. 1,5-DICHLOROPENTANE: flashpoint 26°C c.c. Immiscible with water.	1152

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1153	ETHYLENE GLYCOL DIETHYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
1153	ETHYLENE GLYCOL DIETHYL ETHER	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1154	DIETHYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1155	DIETHYL ETHER (ETHYL ETHER)	3	–	I	–	0	E3	P001	–	–	–
1156	DIETHYL KETONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1157	DIISOBUTYL KETONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1158	DIISOPROPYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1159	DIISOPROPYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
1160	DIMETHYLAMINE, AQUEOUS SOLUTION	3	8	II	–	1 L	E2	P001	–	IBC02	–
1161	DIMETHYL CARBONATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1162	DIMETHYLDICHLOROSILANE	3	8	II	–	0	E0	P010	–	–	–
△ 1163	DIMETHYLHYDRAZINE, UNSYMMETRICAL	6.1	3/8 P	I	354	0	E0	P602	–	–	–
1164	DIMETHYL SULPHIDE	3	–	II	–	1 L	E2	P001	–	IBC02	B8
1165	DIOXANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1166	DIOXOLANE	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1	F-E, S-D	Category A	–	Colourless liquid with an ether-like odour. Flashpoint: 35°C c.c. Immiscible with water.	1153
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1153
–	T7	TP1	F-E, S-C	Category E SW2	SG35	Colourless liquid with an ammonia-like odour. Flashpoint: –39°C c.c. Explosive limits: 1.7% to 10.1%. Boiling point: 55°C. Miscible with water. Harmful if swallowed. Causes burns to skin, eyes and mucous membranes. Higher concentrations cause dangerous lung irritation.	1154
–	T11	TP2	F-E, S-D	Category E SW2	–	Colourless, volatile and mobile liquid with a pleasant aromatic odour. Flashpoint: –40°C c.c. Explosive limits: 1.7% to 48%. Boiling point: 34°C. Immiscible with water. In the presence of oxygen or on long standing or exposure to sunlight, unstable peroxides sometimes form; these may explode spontaneously or when heated. Strongly narcotic. Readily ignited by static electricity.	1155
–	T4	TP1	F-E, S-D	Category B	–	Colourless, mobile liquid. Flashpoint: 13°C c.c. Lower explosive limit: 1.6%. Immiscible with water.	1156
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 49°C c.c. Explosive limits: 0.8% to 7.1%. Immiscible with water.	1157
–	T7	TP1	F-E, S-C	Category B	SG35	Colourless, volatile liquid with a fishy odour. Flashpoint: –7°C c.c. Explosive limits: 1.1% to 7.1%. Partially miscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	1158
–	T4	TP1	F-E, S-D	Category E SW2	–	Colourless liquid with an ether-like odour. Flashpoint: –29°C c.c. Explosive limits: 1.1% to 21%. Immiscible with water. In the presence of oxygen or on long standing or exposure to sunlight, unstable peroxides sometimes form; these may explode spontaneously or when heated. Strongly narcotic. Readily ignited by static electricity.	1159
–	T7	TP1	F-E, S-C	Category B	SGG18 SG35	Aqueous solution of a flammable gas with an ammonia-like odour. Flashpoint for 60% solution in water: –32°C c.c. Explosive limits: 2.8% to 14.4%. Boiling point for 60% solution in water: 36°C. Flashpoint for 25% solution in water: 0°C c.c. Miscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1160
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Immiscible with water. Flashpoint: 18°C c.c.	1161
–	T10	TP2 TP7 TP13	F-E, S-C	Category B SW2	–	Colourless liquid with a pungent odour. Flashpoint: –9°C c.c. Explosive limits: 1.4% to 9.5%. Immiscible with water. Reacts with water to form a complex mixture of dimethylsiloxanes and evolves hydrogen chloride, a toxic and corrosive gas. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	1162
–	T20	TP2 TP13	F-E, S-C	Category D SW2	SGG18 SG5 SG8 SG13 SG35	Colourless liquid with an ammonia-like odour. Flashpoint: –18°C c.c. Explosive limits: 2% to 95%. Miscible with water, generating heat. Reacts violently with acids. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes. May react dangerously with oxidizing substances.	1163
–	T7	TP2	F-E, S-D	Category E SW2	–	Colourless liquid with a disagreeable odour. Flashpoint: –37°C c.c. Explosive limits: 2.2% to 19.7%. Boiling point: 37°C. Immiscible with water. When involved in a fire, evolves toxic gases. Narcotic in high concentrations.	1164
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with an ether-like odour. Flashpoint: 12°C c.c. Explosive limits: 2% to 22%. Miscible with water. Harmful by inhalation.	1165
–	T4	TP1	F-E, S-D	Category B SW2	–	Colourless liquid. Flashpoint: 2°C c.c. Miscible with water. Harmful by inhalation.	1166

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1167	DIVINYL ETHER, STABILIZED	3	–	I	386	0	E3	P001	–	–	–
1169	EXTRACTS, AROMATIC, LIQUID	3	–	II	–	5 L	E2	P001	–	IBC02	–
1169	EXTRACTS, AROMATIC, LIQUID	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1170	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	3	–	II	144	1 L	E2	P001	–	IBC02	–
1170	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	3	–	III	144 223	5 L	E1	P001 LP01	–	IBC03	–
1171	ETHYLENE GLYCOL MONOETHYL ETHER	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1172	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1173	ETHYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1175	ETHYLBENZENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1176	ETHYL BORATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1177	2-ETHYLBUTYL ACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1178	2-ETHYLBUTYRALDEHYDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1179	ETHYL BUTYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
1180	ETHYL BUTYRATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1181	ETHYL CHLOROACETATE	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–
△ 1182	ETHYL CHLOROFORMATE	6.1	3/8	I	354	0	E0	P602	–	–	–
1183	ETHYLDICHLOROSILANE	4.3	3/8	I	–	0	E0	P401	PP31	–	–
1184	ETHYLENE DICHLORIDE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T11	TP2	F-E, S-D	Category E SW1 SW2	–	Colourless, clear liquid with a characteristic odour. Flashpoint: –30°C c.c. Explosive limits: 1.7% to 27%. Boiling point: 30°C. Immiscible with water. In the presence of oxygen or on long standing or exposure to sunlight, unstable peroxides sometimes form; these may explode spontaneously or when heated. Strongly narcotic. Readily ignited by static electricity.	1167
–	T4	TP1 TP8	F-E, S-D	Category B	–	Usually consist of alcoholic solutions. Miscibility with water depends upon the composition.	1169
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1169
–	T4	TP1	F-E, S-D	Category A	–	Colourless, volatile liquids. Pure ETHANOL: flashpoint 13°C c.c. Explosive limits: 3.3% to 19%. Miscible with water.	1170
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1170
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 40°C c.c. Explosive limits: 1.7% to 15.6%. Miscible with water.	1171
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 51°C c.c. Explosive limits: 1.7% to 10.1%. Partially miscible with water.	1172
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a fragrant odour. Flashpoint: –4°C c.c. Explosive limits: 2.18% to 11.5%. Immiscible with water.	1173
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with an aromatic odour. Flashpoint: 22°C c.c. Explosive limits: 1% to 6.7%. Immiscible with water.	1175
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 11°C c.c. Immiscible with water.	1176
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 54°C o.c. Immiscible with water.	1177
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 11°C c.c. Explosive limits: 1.2% to 7.7%. Immiscible with water.	1178
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –1°C c.c. Immiscible with water.	1179
–	T2	TP1	F-E, S-D	Category A	–	Colourless, volatile liquid with a pineapple-like odour. Flashpoint: 26°C c.c. Immiscible with water.	1180
–	T7	TP2	F-E, S-D	Category A	–	Colourless, flammable liquid with a pungent and fruity odour. Flashpoint: 54°C c.c. Immiscible with water. When heated, evolves toxic and corrosive fumes. Toxic if swallowed, by skin contact or by inhalation.	1181
–	T20	TP2 TP13	F-E, S-C	Category D SW2	SGG1 SG5 SG8 SG36 SG49	Colourless liquid. Flashpoint: 16°C c.c. Reacts and decomposes with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1182
–	T14	TP2 TP7 TP13	F-G, S-O	Category D SW2 H1	SGG1 SG5 SG8 SG13 SG25 SG26 SG36 SG49	Colourless, very volatile liquid with a pungent odour. Flashpoint: –1°C c.c. Immiscible with water. Reacts violently with water or steam to produce heat which may lead to self-ignition; toxic and corrosive fumes will be evolved. May react vigorously in contact with oxidizing substances. Causes burns to skin, eyes and mucous membranes.	1183
–	T7	TP1	F-E, S-D	Category B SW2	SGG10	Colourless liquid with a chloroform-like odour. Flashpoint: 13°C c.c. Explosive limits: 6.2% to 15.9%. Immiscible with water. Toxic by inhalation. Irritating to skin, eyes and mucous membranes.	1184

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1185	ETHYLENEIMINE, STABILIZED	6.1	3	I	354 386	0	E0	P601	–	–	–
1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1189	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1190	ETHYL FORMATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1191	OCTYL ALDEHYDES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1192	ETHYL LACTATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1193	ETHYL METHYL KETONE (METHYL ETHYL KETONE)	3	–	II	–	1 L	E2	P001	–	IBC02	–
1194	ETHYL NITRITE SOLUTION	3	6.1	I	900	0	E0	P001	–	–	–
1195	ETHYL PROPIONATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1196	ETHYLTRICHLOROSILANE	3	8	II	–	0	E0	P010	–	–	–
1197	EXTRACTS, FLAVOURING, LIQUID	3	–	II	–	5 L	E2	P001	–	IBC02	–
1197	EXTRACTS, FLAVOURING, LIQUID	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1198	FORMALDEHYDE SOLUTION, FLAMMABLE	3	8	III	–	5 L	E0	P001	–	IBC03	–
1199	FURALDEHYDES	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–
1201	FUSEL OIL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1201	FUSEL OIL	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1202	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1203	MOTOR SPIRIT or GASOLINE or PETROL	3	–	II	243	1 L	E2	P001	–	IBC02	–
1204	NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin	3	–	II	–	1 L	E0	P001	PP5	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T22	TP2 TP13	F-E, S-D	Category D SW1 SW2	–	Colourless oily flammable liquid with a pungent ammonia-like odour. Flashpoint: –13°C c.c. Boiling point: 55°C. Explosive limits: 3.6% to 6.0%. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1185
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 38°C c.c. Explosive limits: 1.8% to 20%. Miscible with water.	1188
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a characteristic odour. Flashpoint: 44°C c.c. Explosive limits: 1.7% to 8.2%. Miscible with water.	1189
–	T4	TP1	F-E, S-D	Category E	–	Colourless liquid with a pleasant aromatic odour. Flashpoint: –20°C c.c. Explosive limits: 3.5% to 16.5%. Boiling point: 54°C. Immiscible with water.	1190
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids with a characteristic odour. Flashpoint: 44°C to 52°C c.c. Explosive limits: 0.9% to 7.2%. Immiscible with water.	1191
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 46°C c.c. Explosive limits: 1.5% to 11.4%. Miscible with water.	1192
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –1°C c.c. Explosive limits: 1.8% to 11.5%. Miscible with water.	1193
–	–	–	F-E, S-D	Category D SW2	–	Alcoholic solution of ethyl nitrite. Extremely volatile, with an aromatic, ethereal odour. Explosive limits of the pure product: 3% to 50%. Boiling point of pure product: 17°C. Miscible or partially miscible with water. Decomposes under exposure to air, light, water or heat to evolve toxic nitrous fumes. Toxic if swallowed, by skin contact or by inhalation. Inhalation of ethyl nitrite vapours, even in small quantities, rapidly affects the heart and can be dangerous. Transport of ETHYL NITRITE pure is prohibited.	1194
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a pineapple-like odour. Flashpoint: 12°C c.c. Explosive limits: 1.8% to 11%. Immiscible with water.	1195
–	T10	TP2 TP7 TP13	F-E, S-C	Category B SW2	–	Colourless liquid with a pungent odour. Flashpoint: 14°C c.c. Readily hydrolysed by moisture, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Causes burns to skin and eyes. Irritating to mucous membranes.	1196
–	T4	TP1 TP8	F-E, S-D	Category B	–	Usually consist of alcoholic solutions. Miscibility with water depends upon the composition.	1197
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1197
–	T4	TP1	F-E, S-C	Category A SW2	–	Colourless liquids with a pungent odour. Flashpoint: 32–60°C c.c. Miscible with water. Irritating to skin, eyes and mucous membranes.	1198
–	T7	TP2	F-E, S-D	Category A	–	Colourless or reddish-brown, mobile liquids with a pungent odour. Miscible with water. Explosive limits for 2-FURALDEHYDE: 2.1% to 19.3%. Flashpoints: 2-FURALDEHYDE 60°C c.c., 3-FURALDEHYDE 48°C c.c. Toxic if swallowed, by skin contact or by inhalation.	1199
–	T4	TP1	F-E, S-D	Category B	–	Colourless, oily liquid with a disagreeable odour. A mixture consisting of amyl alcohols. Immiscible with water.	1201
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1201
–	T2	TP1	F-E, S-E	Category A	–	Immiscible with water.	1202
–	T4	TP1	F-E, S-E	Category E	–	Immiscible with water.	1203
–	–	–	F-E, S-D	Category B	–	Immiscible with water. Ignites readily. When involved in a fire, evolves toxic nitrous fumes. Not explosive in this state but damage to, or leakage from, a package may allow solvent to evaporate and thus leave the nitroglycerin in an explosive state.	1204



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1206	HEPTANES	3	– P	II	–	1 L	E2	P001	–	IBC02	–
1207	HEXALDEHYDE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1208	HEXANES	3	– P	II	–	1 L	E2	P001	–	IBC02	–
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	3	–	I	163 367	500 mL	E3	P001	–	–	–
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	3	–	II	163 367	5 L	E2	P001	PP1	IBC02	–
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	3	–	III	163 223 367 955	5 L	E1	P001 LP01	PP1	IBC03	–
1212	ISOBUTANOL (ISOBUTYL ALCOHOL)	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1213	ISOBUTYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1214	ISOBUTYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1216	ISOOCETENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
1218	ISOPRENE, STABILIZED	3	– P	I	386	0	E3	P001	–	–	–
1219	ISOPROPANOL (ISOPROPYL ALCOHOL)	3	–	II	–	1 L	E2	P001	–	IBC02	–
1220	ISOPROPYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1221	ISOPROPYLAMINE	3	8	I	–	0	E0	P001	–	–	–
1222	ISOPROPYL NITRATE	3	–	II	26	1 L	E2	P001	–	–	–
1223	KEROSENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1224	KETONES, LIQUID, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
1224	KETONES, LIQUID, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP2	F-E, <u>S-D</u>	Category B	–	Colourless, volatile liquids. Explosive limits: 1.1% to 6.7%. <i>n</i> -HEPTANE: flashpoint –4°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	1206
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a pungent odour. Flashpoint: 32°C c.c. Immiscible with water.	1207
–	T4	TP2	F-E, <u>S-D</u>	Category E	–	Colourless, volatile liquids with a faint odour. Explosive limits: 1.1% to 7.5%. <i>n</i> -HEXANE: flashpoint –22°C c.c., boiling point 69°C. NEOHEXANE: flashpoint –48°C c.c., boiling point 50°C. Immiscible with water. Slightly irritating to skin, eyes and mucous membranes.	1208
–	T11	TP1 TP8	F-E, S-D	Category E	–	Fluid or viscous liquid containing colouring matter in solution or suspension. Miscibility with water depends upon the solvent.	1210
–	T4	TP1 TP8	F-E, S-D	Category B	–	See entry above.	1210
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1210
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a sweet odour. Flashpoint: 28°C c.c. Explosive limits: 1.2% to 10.9%. Partially miscible with water.	1212
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a pineapple-like odour. Flashpoint: 18°C c.c. Explosive limits: 1.3% to 10.5%. Immiscible with water.	1213
–	T7	TP1	F-E, S-C	Category B SW2	SG35	Colourless liquid. Flashpoint: –9°C c.c. Explosive limits: 3.4% to 9%. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	1214
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. Immiscible with water.	1216
–	T11	TP2	F-E, <u>S-D</u>	Category D SW1	–	Colourless, volatile liquid. Flashpoint: –48°C c.c. Explosive limits: 1.5% to 9.7%. Boiling point: 34°C. Immiscible with water.	1218
–	T4	TP1	F-E, S-D	Category B	–	Colourless, mobile liquid. Flashpoint: 12°C c.c. Explosive limits: 2% to 12%. Miscible with water.	1219
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with an aromatic odour. Flashpoint: 11°C c.c. Explosive limits: 1.8% to 7.8%. Immiscible with water.	1220
–	T11	TP2	F-E, S-C	Category E SW2	SG35	Colourless, volatile liquid with an ammonia-like odour. Flashpoint: –37°C c.c. Explosive limits: 2.3% to 10.4%. Boiling point: 32°C. Miscible with water. Harmful if swallowed. Causes burns to skin, eyes and mucous membranes.	1221
–	–	–	F-E, S-D	Category D	–	Colourless liquid. Flashpoint: 12°C c.c. Explosive limits: up to 100%. Immiscible with water. May explode on heating. Harmful by inhalation.	1222
–	T2	TP2	F-E, S-E	Category A	–	Immiscible with water.	1223
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	–	1224
–	T4	TP1 TP29	F-E, S-D	Category A	–	–	1224

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	274	1 L	E0	P001	–	IBC02	–
1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	6.1	III	223 274	5 L	E1	P001	–	IBC03	–
1229	MESITYL OXIDE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1230	METHANOL	3	6.1	II	279	1 L	E2	P001	–	IBC02	–
1231	METHYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1233	METHYLAMYL ACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1234	METHYLAL	3	–	II	–	1 L	E2	P001	–	IBC02	B8
1235	METHYLAMINE, AQUEOUS SOLUTION	3	8	II	–	1 L	E2	P001	–	IBC02	–
1237	METHYL BUTYRATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
△ 1238	METHYL CHLOROFORMATE	6.1	3/8	I	354	0	E0	P602	–	–	–
△ 1239	METHYL CHLOROMETHYL ETHER	6.1	3	I	354	0	E0	P602	–	–	–
1242	METHYLDICHLOROSILANE	4.3	3/8	I	–	0	E0	P401	PP31	–	–
1243	METHYL FORMATE	3	–	I	–	0	E3	P001	–	–	–
△ 1244	METHYLHYDRAZINE	6.1	3/8	I	354	0	E0	P602	–	–	–
1245	METHYL ISOBUTYL KETONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1246	METHYL ISOPROPENYL KETONE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP27	F-E, S-D	Category B SW2	SG50 SG57	Colourless to yellow liquids with a garlic odour. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	1228
–	T7	TP1 TP28	F-E, S-D	Category B SW2	SG50 SG57	See entry above.	1228
–	T2	TP1	F-E, S-D	Category A	–	Colourless, oily liquid with a sweet odour. Flashpoint: 32°C c.c. Miscible with water.	1229
–	T7	TP2	F-E, S-D	Category B SW2	–	Colourless, volatile liquid. Flashpoint: 12°C c.c. Explosive limits: 6% to 36.5%. Miscible with water. Toxic if swallowed; may cause blindness. Avoid skin contact.	1230
–	T4	TP1	F-E, S-D	Category B	–	Colourless, volatile liquid with a fragrant odour. Flashpoint: –10°C c.c. Explosive limits: 3% to 16%. Miscible with water.	1231
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 43°C o.c. Immiscible with water.	1233
–	T7	TP2	F-E, S-D	Category E	–	Colourless, volatile liquid with a chloroform-like odour. Flashpoint: –28°C c.c. Explosive limits: 3.6% to 12.6%. Boiling point: 42°C. Miscible with water. Irritating to skin, eyes and mucous membranes.	1234
–	T7	TP1	F-E, S-C	Category E	SGG18 SG35 SG54	Aqueous solution of a flammable gas having an ammonia-like odour. Explosive limits: 5% to 20.7% (pure product). Boiling point: –7°C (pure product). Commercial product is a 40% solution with: boiling point 48°C, flashpoint –13°C c.c. Miscible with water. May react explosively with mercury. Causes burns to skin, eyes and mucous membranes.	1235
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 14°C c.c. Immiscible with water.	1237
–	T22	TP2 TP13	F-E, S-C	Category D SW2	SGG1 SG5 SG8 SG36 SG49	Colourless liquid. Flashpoint: 5°C c.c. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1238
–	T22	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless liquid. Flashpoint: below –18°C c.c. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1239
–	T14	TP2 TP7 TP13	F-G, S-O	Category D SW2 H1	SGG1 SG5 SG8 SG13 SG25 SG26 SG36 SG49	Colourless, very volatile liquid with a pungent odour. Flashpoint: –26°C c.c. Explosive limits: 4.5% to 70%. Boiling point: 41°C. Immiscible with water. Reacts violently with water or steam to produce heat which may lead to self-ignition; toxic and corrosive fumes will be evolved. May react vigorously in contact with oxidizing substances. Causes burns to skin, eyes and mucous membranes.	1242
–	T11	TP2	F-E, S-D	Category E	–	Colourless liquid with an agreeable odour. Flashpoint: –32°C c.c. Explosive limits: 5% to 22.7%. Boiling point: 32°C. Miscible with water.	1243
–	T22	TP2 TP13	F-E, S-C	Category D SW2	SGG18 SG5 SG8 SG13 SG35	Colourless liquid with an ammonia-like odour. Flashpoint: 20°C c.c. Explosive limits: 2.5% to 98%. Miscible with water. Reacts violently with acids. May react dangerously with oxidizing substances. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1244
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a pleasant odour. Flashpoint: 14°C c.c. Explosive limits: 1.4% to 7.5%. Immiscible with water.	1245
–	T4	TP1	F-E, S-D	Category C SW1	–	Colourless liquid with a pleasant odour. Explosive limits: 1.8% to 9%. Immiscible with water.	1246

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1247	METHYL METHACRYLATE MONOMER, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
1248	METHYL PROPIONATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1249	METHYL PROPYL KETONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1250	METHYLTRICHLOROSILANE	3	8	II	–	0	E0	P010	–	–	–
△ 1251	METHYL VINYL KETONE, STABILIZED	6.1	3/8	I	354 386	0	E0	P601	–	–	–
1259	NICKEL CARBONYL	6.1	3 P	I	–	0	E0	P601	–	–	–
1261	NITROMETHANE	3	–	II	26	1 L	E0	P001	–	–	–
1262	OCTANES	3	– P	II	–	1 L	E2	P001	–	IBC02	–
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	3	–	I	163 367	500 mL	E3	P001	–	–	–
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	3	–	II	163 367	5 L	E2	P001	PP1	IBC02	–
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	3	–	III	163 223 367 955	5 L	E1	P001 LP01	PP1	IBC03	–
1264	PARALDEHYDE	3		III	–	5 L	E1	P001 LP01	–	IBC03	–
1265	PENTANES, liquid	3	–	I	–	0	E3	P001	–	–	–
1265	PENTANES, liquid	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-E, S-D	Category C SW1 SW2	–	Colourless, volatile liquid. Flashpoint: 8°C c.c. Explosive limits: 1.5% to 11.6%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	1247
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –2°C c.c. Explosive limits: 2.4% to 13%. Immiscible with water.	1248
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 7°C c.c. Explosive limits: 1.5% to 8.2%. Immiscible with water.	1249
–	T10	TP2 TP7 TP13	<u>F-E</u> , S-C	Category B SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Flashpoint: 8°C o.c. Explosive limits: 5.1% to 20%. Immiscible with water. Readily hydrolysed by moisture, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Causes burns to skin and eyes. Irritating to mucous membranes.	1250
–	T22	TP2 TP13	F-E, S-C	Category D SW1 SW2	SG5 SG8	Colourless liquid with a pungent odour. Miscible with water. Explosive limits: 2.1% to 15.6%. Flashpoint: –7°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1251
–	–	–	F-E, <u>S-D</u>	Category D SW2	SG63	Colourless or yellow, volatile, flammable liquid. Flashpoint: below –20°C c.c. Oxidizes in air and explodes at a temperature of 60°C. Lower explosive limit: 2.0%. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1259
–	–	–	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 35°C c.c. Explosive limits: 7.1% to 63%. Miscible with water. Fire and explosion hazard if package is ruptured.	1261
–	T4	TP2	F-E, S-E	Category B	–	Colourless liquids. Explosive limits: 1% to 6.5%. ISOCTANE: flashpoint –12°C c.c. <i>n</i> -OCTANE: flashpoint 13°C c.c. Immiscible with water.	1262
–	T11	TP1 TP8 TP27	F-E, <u>S-E</u>	Category E	–	Miscibility with water depends upon the composition.	1263
–	T4	TP1 TP8 TP28	F-E, <u>S-E</u>	Category B	–	See entry above.	1263
–	T2	TP1 TP29	F-E, <u>S-E</u>	Category A	–	See entry above.	1263
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 27°C c.c. Lower explosive limit: 1.3%. Miscible with water.	1264
–	T11	TP2	F-E, S-D	Category E	–	Colourless liquids with a paraffin-like odour. Explosive limits: 1.4% to 8%. ISOPENTANE (2-METHYLBUTANE): boiling point 28°C. Immiscible with water. Slightly irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.	1265
–	T4	TP1	F-E, S-D	Category E	–	See entry above. <i>normal</i> -PENTANE: boiling point 36°C.	1265

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1266	PERFUMERY PRODUCTS with flammable solvents	3	–	II	163	5 L	E2	P001	–	IBC02	–
1266	PERFUMERY PRODUCTS with flammable solvents	3	–	III	163 223 904 955	5 L	E1	P001 LP01	–	IBC03	–
1267	PETROLEUM CRUDE OIL	3	–	I	357	500 mL	E3	P001	–	–	–
1267	PETROLEUM CRUDE OIL	3	–	II	357	1 L	E2	P001	–	IBC02	–
1267	PETROLEUM CRUDE OIL	3	–	III	223 357	5 L	E1	P001 LP01	–	IBC03	–
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	3	–	I	–	500 mL	E3	P001	–	–	–
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	3	–	II	–	1 L	E2	P001	–	IBC02	–
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1272	PINE OIL	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
1274	<i>n</i> -PROPANOL (PROPYL ALCOHOL, NORMAL)	3	–	II	–	1 L	E2	P001	–	IBC02	–
1274	<i>n</i> -PROPANOL (PROPYL ALCOHOL, NORMAL)	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1275	PROPIONALDEHYDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1276	<i>n</i> -PROPYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1277	PROPYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1278	1-CHLOROPROPANE	3	–	II	–	1 L	E0	P001	–	IBC02	B8
1279	1,2-DICHLOROPROPANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1280	PROPYLENE OXIDE	3	–	I	–	0	E3	P001	–	–	–
1281	PROPYL FORMATES	3	–	II	–	1 L	E2	P001	–	IBC02	–
1282	PYRIDINE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1286	ROSIN OIL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1286	ROSIN OIL	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1287	RUBBER SOLUTION	3	–	II	–	5 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1 TP8	F-E, S-D	Category B	–	Miscibility with water depends upon the composition.	1266
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1266
–	T11	TP1 TP8	F-E, S-E	Category E	–	Immiscible with water.	1267
–	T4	TP1 TP8	F-E, S-E	Category B	–	See entry above.	1267
–	T2	TP1	F-E, S-E	Category A	–	See entry above.	1267
–	T11	TP1 TP8	F-E, S-E	Category E	–	Immiscible with water.	1268
–	T7	TP1 TP8 TP28	F-E, S-E	Category B	–	See entry above.	1268
–	T4	TP1 TP29	F-E, S-E	Category A	–	See entry above.	1268
–	T2	TP2	F-E, S-E	Category A	–	Volatile oils with characteristic odours. Flashpoint: 57°C to 60°C c.c. Immiscible with water.	1272
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Explosive limits: 2% to 12%. Flashpoint: 15°C to 23°C c.c. Miscible with water.	1274
–	T2	TP1	F-E, S-D	Category A	–	See entry above. Flashpoint: 23°C to 26°C c.c.	1274
–	T7	TP1	F-E, S-D	Category E	–	Colourless liquid with a pungent odour. Flashpoint: below –18°C c.c. Explosive limits: 2.3% to 21%. Boiling point: 49°C. Miscible with water. Irritating to skin, eyes and mucous membranes.	1275
–	T4	TP1	F-E, S-D	Category B	–	Colourless, clear liquid with a pleasant odour. Flashpoint: 10°C c.c. Explosive limits: 1.8% to 8%. Immiscible with water.	1276
–	T7	TP1	F-E, S-C	Category E SW2	SG35	Colourless liquid. Flashpoint: below –18°C c.c. Explosive limits: 2% to 10.4%. Boiling point: 48°C. Miscible with water. Harmful if swallowed. Causes burns to skin, eyes and mucous membranes.	1277
–	T7	TP2	F-E, S-D	Category E	SGG10	Colourless liquid with a chloroform-like odour. Flashpoint: –18°C c.c. Explosive limits: 2.6% to 10.5%. Boiling point: 47°C. Immiscible with water.	1278
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquid. Flashpoint: 15°C c.c. Immiscible with water. Harmful by inhalation. Irritating to skin and eyes.	1279
–	T11	TP2 TP7	F-E, S-D	Category E SW2	–	Colourless, volatile liquid with an ether-like odour. Flashpoint: below –18°C c.c. Explosive limits: 2% to 22%. Boiling point: 34°C. Partially miscible with water.	1280
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids with a pleasant odour. Explosive limits: 2.4% to 7.8%. Miscibility with water depends upon the composition. Irritating to skin, eyes and mucous membranes.	1281
–	T4	TP2	F-E, S-D	Category B SW2	–	Colourless or slightly yellow liquid with a pungent odour. Flashpoint: 17°C c.c. Explosive limits: 1.8% to 12.4%. Miscible with water. Harmful by inhalation.	1282
–	T4	TP1	F-E, S-E	Category B	–	Colourless to brown viscous liquid. Immiscible with water.	1286
–	T2	TP1	F-E, S-E	Category A	–	See entry above.	1286
–	T4	TP1 TP8	F-E, S-D	Category B	–	Miscibility with water depends upon the composition.	1287



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1287	RUBBER SOLUTION	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1288	SHALE OIL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1288	SHALE OIL	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
△ 1289	SODIUM METHYLATE SOLUTION in alcohol	3	8	II	–	1 L	E2	P001	–	IBC02	–
△ 1289	SODIUM METHYLATE SOLUTION in alcohol	3	8	III	223	5 L	E1	P001	–	IBC03	–
1292	TETRAETHYL SILICATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1293	TINCTURES, MEDICINAL	3	–	II	–	1 L	E2	P001	–	IBC02	–
1293	TINCTURES, MEDICINAL	3	–	III	904 955	5 L	E1	P001 LP01	–	IBC03	–
1294	TOLUENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1295	TRICHLOROSILANE	4.3	3/8	I	–	0	E0	P401	PP31	–	–
1296	TRIETHYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	8	I	–	0	E0	P001	–	–	–
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	8	II	–	1 L	E2	P001	–	IBC02	–
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	8	III	223	5 L	E1	P001	–	IBC03	–
1298	TRIMETHYLCHLOROSILANE	3	8	II	–	0	E0	P010	–	–	–
1299	TURPENTINE	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
1300	TURPENTINE SUBSTITUTE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1300	TURPENTINE SUBSTITUTE	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1301	VINYL ACETATE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-D	Category A	–	Miscibility with water depends upon the composition.	1287
–	T4	TP1 TP8	F-E, S-E	Category B	–	Immiscible with water.	1288
–	T2	TP1	F-E, S-E	Category A	–	See entry above.	1288
–	T7	TP1 TP8	F-E, S-C	Category B	SGG18 SG35	Reacts violently with water. Causes burns to skin, eyes and mucous membranes.	1289
–	T4	TP1	F-E, S-C	Category A	SGG18 SG35	See entry above. Irritating to skin, eyes and mucous membranes.	1289
–	T2	TP1	F-E, S-D	Category A.	–	Colourless liquid. Flashpoint: 37°C c.c. Explosive limits: 1.3% to 23%. Immiscible with water.	1292
–	T4	TP1 TP8	F-E, S-D	Category B	–	Miscibility with water depends upon the composition.	1293
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1293
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a benzene-like odour. Flashpoint: 7°C c.c. Explosive limits: 1.27% to 7%. Immiscible with water.	1294
–	T14	TP2 TP7 TP13	<u>F-G, S-O</u>	Category D SW2 H1	SGG1 SG5 SG8 SG13 SG25 SG26 SG36 SG49 SG72	Colourless, very volatile, flammable and corrosive liquid. Flashpoint: below –50°C. Explosive limits: 1.2% to 90.5%. Boiling point: 32°C. Reacts with water or steam to produce heat, which may lead to self-ignition; toxic and corrosive fumes will be evolved. May react vigorously in contact with oxidizing substances. Causes burns to skin, eyes and mucous membranes.	1295
–	T7	TP1	F-E, S-C	Category B SW2	SG35	Colourless liquid with a strong ammonia-like odour. Flashpoint: –11°C c.c. Explosive limits: 1.2% to 8%. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	1296
–	T11	TP1	F-E, S-C	Category D SW2	SG35 SG54	Aqueous solution of a flammable gas with an ammonia-like odour. Flashpoint depending on percentage of dissolved gas. May react explosively with mercury. Miscible with water. An aqueous solution of 45% TRIMETHYLAMINE, by mass, has a flashpoint of –45°C c.c. and a boiling point of 30°C (applicable to PG I only). Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	1297
–	T7	TP1	F-E, S-C	Category B SW2	SG35 SG54	See entry above.	1297
–	T7	TP1	F-E, S-C	Category A SW2	SG35 SG54	See entry above. Irritating to skin, eyes and mucous membranes.	1297
–	T10	TP2 TP7 TP13	<u>F-E</u> , S-C	Category E SW2	SGG1 SG36 SG49	Colourless liquid. Flashpoint: below –18°C c.c. Explosive limits: 1.8% to 6%. Boiling point: 57°C. Immiscible with water. Readily hydrolysed by moisture, evolving hydrogen chloride, a toxic and corrosive gas. Causes burns to skin, eyes and mucous membranes.	1298
–	T2	TP2	F-E, S-E	Category A	–	Colourless liquid. Flashpoint: 35°C c.c. Mixture of resin and volatile oils. Immiscible with water.	1299
–	T4	TP1	F-E, S-E	Category B	–	Immiscible with water.	1300
–	T2	TP1	F-E, S-E	Category A	–	See entry above.	1300
–	T4	TP1	F-E, S-D	Category C SW1	–	Colourless to light yellow liquid. Flashpoint: –8°C c.c. Explosive limits: 2.6% to 14%. Immiscible with water.	1301

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1302	VINYL ETHYL ETHER, STABILIZED	3	–	I	386	0	E3	P001	–	–	–
1303	VINYLDIENE CHLORIDE, STABILIZED	3	– P	I	386	0	E3	P001	–	–	–
1304	VINYL ISOBUTYL ETHER, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
1305	VINYLTRICHLOROSILANE	3	8	II	–	0	E0	P010	–	–	–
1306	WOOD PRESERVATIVES, LIQUID	3	–	II	–	5 L	E2	P001	–	IBC02	–
1306	WOOD PRESERVATIVES, LIQUID	3	–	III	223 955	5 L	E1	P001 LP01	–	IBC03	–
1307	XYLENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
1307	XYLENES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1308	ZIRCONIUM, SUSPENDED IN A FLAMMABLE LIQUID	3	–	I	–	0	E0	P001	PP33	–	–
1308	ZIRCONIUM, SUSPENDED IN A FLAMMABLE LIQUID	3	–	II	–	1 L	E2	P001	PP33	–	–
1308	ZIRCONIUM, SUSPENDED IN A FLAMMABLE LIQUID	3	–	III	223	5 L	E1	P001	–	–	–
1309	ALUMINIUM POWDER, COATED	4.1	–	II	–	1 kg	E2	P002	PP38 PP100	IBC08	B4 B21
1309	ALUMINIUM POWDER, COATED	4.1	–	III	223	5 kg	E1	P002 LP02	PP11 PP38 PP100 L3	IBC08	B4
1310	AMMONIUM PICRATE, WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
1312	BORNEOL	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1313	CALCIUM RESINATE	4.1	–	III	–	5 kg	E1	P002	–	IBC06	–
1314	CALCIUM RESINATE, FUSED	4.1	–	III	–	5 kg	E1	P002	–	IBC04	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2	F-E, S-D	Category D SW1	–	Colourless liquid. Flashpoint: below –18°C c.c. Explosive limits: 1.7% to 28%. Boiling point: 33°C. Immiscible with water. Extremely reactive; may polymerize.	1302
–	T12	TP2 TP7	F-E, <u>S-D</u>	Category D SW1 SW2	SGG10	Colourless to straw-coloured, volatile liquid with a sweet odour. Flashpoint: –28°C c.c. Explosive limits: 6.5% to 15.5%. Boiling point: 32°C. Immiscible with water.	1303
–	T4	TP1	F-E, S-D	Category C SW1	–	Colourless liquid. Flashpoint: –9°C o.c. Immiscible with water.	1304
–	T10	TP2 TP7 TP13	F-E, S-C	Category B SW2	SGG1 SG36 SG49	Colourless, pale yellow or pink liquid with a pungent odour. Flashpoint: 11°C c.c. Lower explosive limit: 3%. Readily hydrolysed by moisture, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Immiscible with water. In the presence of moisture, corrosive to most metals.	1305
–	T4	TP1 TP8	F-E, S-D	Category B	–	Miscibility with water depends upon the composition. Harmful by inhalation.	1306
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	1306
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. Flashpoint: 17°C to 23°C c.c. Explosive limits: 1.1% to 7%. Immiscible with water.	1307
–	T2	TP1	F-E, S-D	Category A	–	See entry above. Flashpoint: 23°C to 30°C c.c.	1307
–	–	–	F-E, S-D	Category D	–	Finely divided zirconium metal in a flammable liquid. Immiscible with water. Spillage is liable to self-ignition.	1308
–	–	–	F-E, S-D	Category B	–	See entry above.	1308
–	–	–	F-E, S-D	Category B	–	See entry above.	1308
–	T3	TP33	F-G, S-G	Category A H1	SGG15 SG17 SG25 SG26 SG32 SG35 SG36 SG52	If uncoated, it possesses the property of evolving hydrogen gas when in contact with water, especially seawater; if treated with oil or wax, it does not at ordinary temperatures. Reacts readily with acids and caustic alkalis, evolving hydrogen, a flammable gas. Reacts readily with iron oxide, producing a thermite effect. May form explosive mixtures with oxidizing substances. In the event of breakage of receptacles, the scattered powder is readily ignited by sparks or open flame and may give rise to an explosive atmosphere.	1309
–	T1	TP33	F-G, S-G	Category A H1	SGG15 SG17 SG25 SG26 SG32 SG35 SG36 SG52	See entry above.	1309
–	–	–	F-B, S-J	Category D	SGG2 SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	1310
–	T1	TP33	F-A, S-I	Category A	–	White, translucent lumps. Camphor-like odour. Insoluble in water. Harmful by ingestion.	1312
–	T1	TP33	F-A, S-I	Category A	–	Yellowish-white, amorphous powder or lumps. Insoluble in water. Liable to spontaneous heating. Irritating to skin and mucous membranes.	1313
–	T1	TP33	F-A, S-I	Category A	–	Yellowish-white, amorphous powder or lumps. Insoluble in water. Liable to spontaneous heating. Irritating to skin and mucous membranes.	1314

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1318	COBALT RESINATE, PRECIPITATED	4.1	–	III	–	5 kg	E1	P002	–	IBC06	–
1320	DINITROPHENOL, WETTED with not less than 15% water, by mass	4.1	6.1 P	I	28	0	E0	P406	PP26 PP31	–	–
1321	DINITROPHENOLATES, WETTED with not less than 15% water, by mass	4.1	6.1 P	I	28	0	E0	P406	PP26 PP31	–	–
1322	DINITRORESORCINOL, WETTED with not less than 15% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
1323	FERROCERIUM	4.1	–	II	249	1 kg	E2	P002	PP100	IBC08	B4 B21
1324	FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap	4.1	–	III	–	5 kg	E1	P002	PP15	–	–
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	–	III	223 274	5 kg	E1	P002	–	IBC08	B3
1326	HAFNIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	–	II	916	1 kg	E2	P410	PP31 PP40	IBC06	B21
1327	HAY, STRAW or BHUSA	4.1	–	–	29 281 954 973	3 kg	E0	P003	PP19	IBC08	B6
1328	HEXAMETHYLENETETRAMINE	4.1	–	III	–	5 kg	E1	P002	–	IBC08	B3
1330	MANGANESE RESINATE	4.1	–	III	–	5 kg	E1	P002	–	IBC06	–
1331	MATCHES, “STRIKE ANYWHERE”	4.1	–	III	293	5 kg	E0	P407	PP27	–	–
1332	METALDEHYDE	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1333	CERIUM, slabs, ingots or rods	4.1	–	II	–	1 kg	E2	P002	PP100	IBC08	B4 B21
1334	NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED	4.1	– P	III	948 967	5 kg	E1	P002 LP02	–	IBC08	B3
1336	NITROGUANIDINE (PICRITE), WETTED with not less than 20% water, by mass	4.1	–	I	28	0	E0	P406	PP31	–	–
1337	NITROSTARCH, WETTED with not less than 20% water, by mass	4.1	–	I	28	0	E0	P406	PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-I	Category A	–	Dark brownish-black solid. Insoluble in water. Readily combustible; may ignite spontaneously if contaminated with vegetable fibres (such as cotton). Irritating to skin and mucous membranes.	1318
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance when pure consists of yellow crystals. Slightly soluble in water. May form extremely sensitive compounds with heavy metals or their salts. Toxic if swallowed, by skin contact or by inhalation.	1320
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosives. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Toxic if swallowed, by skin contact or by inhalation.	1321
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Explosive when dry. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	1322
–	T3	TP33	F-G, S-G	Category A H1	SG25 SG26	Alloy derived from cerium or mischmetal, with the addition of 10% to 65% iron. Emits sparks when struck.	1323
–	–	–	F-A, S-I	Category D	SG7	Ignites readily. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air.	1324
–	T3	TP33	F-A, S-G	Category B	SG72	–	1325
–	T1	TP33	F-A, S-G	Category B	SG72	–	1325
–	T3	TP33	F-A, S-J	Category E	SGG15 SG17	Insoluble in water. Liable to spontaneous combustion when dry. Forms explosive mixtures with oxidizing substances.	1326
–	–	–	F-A, S-I	Category A SW10	SG23	Ignites readily. Liable to spontaneous combustion when wet, damp or contaminated with oil. Refuse for shipment when loose, damp, wet or contaminated with oil.	1327
–	T1	TP33	F-A, S-G	Category A	–	White, crystalline powder. Soluble in water.	1328
–	T1	TP33	F-A, S-I	Category A	–	Very dark brown solid. Insoluble in water. Liable to spontaneous heating. Irritating to skin, eyes and mucous membranes.	1330
–	–	–	F-A, S-I	Category B	–	Ignite by friction; prepared surface is not required.	1331
–	T1	TP33	F-A, S-G	Category A	–	White crystals, powder or tablets. Insoluble in water. Harmful if swallowed or by dust inhalation.	1332
–	–	–	F-G, S-P	Category A H1	SG17 SG25 SG26	Contains 94–99% rare earth metals. In contact with water or moist air, evolves hydrogen, a flammable gas. Emits sparks when scratched or struck.	1333
–	T1 BK2 BK3	TP33	F-A, S-G	Category A SW23	–	Crystalline flakes or powder with a persistent odour. Evolves flammable vapours at, or below, its melting point.	1334
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. White solid. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.	1336
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. Orange powder. Explosive and sensitive to friction in the dry state. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.	1337

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1338	PHOSPHORUS, AMORPHOUS	4.1	–	III	–	5 kg	E1	P410	–	IBC08	B3
1339	PHOSPHORUS HEPTASULPHIDE, free from yellow or white phosphorus	4.1	–	II	–	1 kg	E2	P410	PP31	IBC04	–
1340	PHOSPHORUS PENTASULPHIDE, free from yellow or white phosphorus	4.3	4.1	II	–	500 g	E2	P410	PP31 PP40	IBC04	–
1341	PHOSPHORUS SESQUISULPHIDE, free from yellow or white phosphorus	4.1	–	II	–	1 kg	E2	P410	PP31	IBC04	–
1343	PHOSPHORUS TRISULPHIDE, free from yellow or white phosphorus	4.1	–	II	–	1 kg	E2	P410	PP31	IBC04	–
1344	TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
1345	RUBBER SCRAP or RUBBER SHODDY, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	4.1	–	II	223 917	1 kg	E2	P002	–	IBC08	B4 B21
1346	SILICON POWDER, AMORPHOUS	4.1	–	III	32	5 kg	E1	P002 LP02	–	IBC08	B3
1347	SILVER PICRATE, WETTED with not less than 30% water, by mass	4.1	–	I	28 900	0	E0	P406	PP25 PP26 PP31	–	–
1348	SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED with not less than 15% water, by mass	4.1	6.1 P	I	28	0	E0	P406	PP26 PP31	–	–
1349	SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
1350	SULPHUR	4.1	–	III	242 967	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-G	Category A	SG17	Reddish-brown powder. Insoluble in water. Ignites readily by friction. When involved in a fire, evolves irritating fumes. Forms explosive mixtures with oxidizing substances. Harmful if swallowed or by dust inhalation.	1338
–	T3	TP33	F-G, S-G	Category B H1	SG17 SG25 SG26	Yellow solid. Ignites readily by friction. Develops heat in contact with moist air, evolving toxic and flammable gases. Forms explosive mixtures with oxidizing substances. Harmful if swallowed or by dust inhalation.	1339
–	T3	TP33	F-G, S-N	Category D H1	SG26	Yellow solid. Ignites readily by friction. Develops heat in contact with moist air, evolving toxic and flammable gases. Forms explosive mixtures with oxidizing substances. Harmful if swallowed or by dust inhalation.	1340
–	T3	TP33	F-A, S-G	Category B	SG17	Yellow solid. Ignites readily by friction. Develops heat in contact with moist air, evolving toxic and flammable gases. Forms explosive mixtures with oxidizing substances. Harmful if swallowed or by dust inhalation.	1341
–	T3	TP33	F-G, S-G	Category B H1	SG17 SG25 SG26	Yellow solid. Ignites readily by friction. Develops heat in contact with moist air, evolving toxic and flammable gases. Forms explosive mixtures with oxidizing substances. Harmful if swallowed or by dust inhalation.	1343
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	1344
–	T3	TP33	F-A, S-I	Category A	–	Liable to spontaneous heating.	1345
–	T1	TP33	F-A, S-G	Category A	SG17	Dark brown, non-metallic powder. Burns in air, when ignited; readily flammable when mixed with oxidizing substances.	1346
–	–	–	F-B, S-J	Category D	SGG7 SG7 SG30	Desensitized explosive. Yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts. Transport of SILVER PICRATE, dry or wetted with less than 30% water, by mass is <b>prohibited</b> .	1347
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow powder. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Toxic if swallowed, by skin contact or by inhalation.	1348
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow powder. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Harmful if swallowed or by skin contact.	1349
–	T1 BK2 BK3	TP33	F-A, S-G	Category A SW1 SW23	SG17	When involved in a fire, evolves toxic, very irritating and suffocating gas. The dust forms an explosive mixture with air which may be ignited by static electricity. Forms explosive mixtures with oxidizing substances. Corrosive to steel, in particular in the presence of moisture. The provisions of this Code should not apply to sulphur when it is formed to a specific shape (such as prills, granules, pellets, pastilles or flakes).	1350



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1352	TITANIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	–	II	28 916	1 kg	E2	P410	PP31 PP40	IBC06	B21
1353	FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.	4.1	–	III	–	5 kg	E1	P410	–	IBC08	B3
1354	TRINITROBENZENE, WETTED with not less than 30% water, by mass	4.1	–	I	28	0	E0	P406	PP31	–	–
1355	TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	4.1	–	I	28	0	E0	P406	PP31	–	–
1356	TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass	4.1	–	I	28	0	E0	P406	PP31	–	–
1357	UREA NITRATE, WETTED with not less than 20% water, by mass	4.1	–	I	28 227	0	E0	P406	PP31	–	–
1358	ZIRCONIUM POWDER, WETTED with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1	–	II	916	1 kg	E2	P410	PP31 PP40	IBC06	B21
1360	CALCIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
△ 1361	CARBON, animal or vegetable origin	4.2	–	II	925	0	E0	P002	PP12	IBC06	–
1361	CARBON, animal or vegetable origin	4.2	–	III	223 925	0	E0	P002 LP02	PP12	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-A, S-J	Category E	SGG15 SG17	Grey powder. Forms explosive mixtures with oxidizing substances.	1352
–	–	–	F-A, S-I	Category D	–	Toe board used in the manufacture of boots and shoes. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air.	1353
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	1354
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact. May form extremely sensitive compounds with heavy metals or their salts.	1355
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	1356
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of white crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts.	1357
–	T3	TP33	F-G, S-J	Category E H1	SGG15 SG17 SG25 SG26	Grey powder. Insoluble in water. Liable to spontaneous combustion when dry. Forms explosive mixtures with oxidizing substances.	1358
–	–	–	F-G, S-N	Category E SW2 SW5 H1	SG26 SG35	Red to brown crystals. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	1360
–	T3	TP33	F-A, S-J	Category A SW1 H2	–	Black material originating from organic sources. Particularly includes carbon blacks, other non-activated carbon materials and charcoal produced from materials such as bone, bamboo, coconut shell, jute and wood. Liable to heat slowly and ignite spontaneously in air. The material as offered for shipment should be cooled down to ambient temperature before packing.	1361
–	T1	TP33	F-A, S-J	Category A SW1 H2	–	See entry above.	1361

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 1362	CARBON, ACTIVATED	4.2	–	III	223 925	0	E1	P002	PP11 PP31	IBC08	B3
1363	COPRA	4.2	–	III	29 926 973	0	E0	P003 LP02	PP20	IBC08	B3 B6
1364	COTTON WASTE, OILY	4.2	–	III	29 973	0	E0	P003 LP02	PP19	IBC08	B3 B6
1365	COTTON, WET	4.2	–	III	29 973	0	E0	P003	PP19	IBC08	B3 B6
1369	p-NITROSODIMETHYLANILINE	4.2	–	II	927	0	E2	P410	–	IBC06	B21
△ 1372	FIBRES, ANIMAL or FIBRES, VEGETABLE burnt, wet or damp	4.2	–	III	123	0	E1	P410	–	–	–
1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil	4.2	–	III	–	0	E0	P410	PP31	IBC08	B3
1374	FISH MEAL, UNSTABILIZED or FISH SCRAP, UNSTABILIZED High hazard. Unrestricted moisture content. Unrestricted fat content in excess of 12%, by mass; unrestricted fat content in excess of 15%, by mass, in the case of anti-oxidant treated fish meal or fish scrap	4.2	–	II	300 928	0	E2	P410	PP31 PP40	IBC08	B4 B21
1374	FISH MEAL, UNSTABILIZED or FISH SCRAP, UNSTABILIZED Not anti-oxidant treated. Moisture content: more than 5% but not more than 12%, by mass. Fat content: not more than 12%, by mass	4.2	–	III	29 300 907 928	0	E1	P410	PP31	IBC08	B3 B21
1376	IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification	4.2	–	III	223	0	E0	P002 LP02	PP100 L3	IBC08	B4
1378	METAL CATALYST, WETTED with a visible excess of liquid	4.2	–	II	274	0	E0	P410	PP31 PP39 PP40	IBC01	–
1379	PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)	4.2	–	III	–	0	E0	P410	PP31	IBC08	B3
1380	PENTABORANE	4.2	6.1	I	–	0	E0	P601	–	–	–
1381	PHOSPHORUS, WHITE or YELLOW, DRY or UNDER WATER or IN SOLUTION	4.2	6.1 P	I	–	0	E0	P405	PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-J	Category A SW1 H2	–	Activated porous black carbon materials not including charcoal (see UN 1361). May be in the form of powder, granules, pellets, fibres or felts. If chemically activated, may self-heat, and may ignite spontaneously in air.	1362
–	BK2	–	F-A, S-J	Category A SW1 SW9 H1	–	Dried kernels of coconuts, with a penetrating rancid odour which may taint other cargoes.	1363
–	–	–	F-A, S-J	Category A	SG41	Fibres of vegetable origin.	1364
–	–	–	F-A, S-J	Category A	–	Readily combustible, liable to ignite spontaneously according to moisture content.	1365
–	T3	TP33	F-A, S-J	Category D	SG29	Dark green, crystalline solid, insoluble in water. Ignites spontaneously in air when dry. Harmful if swallowed.	1369
–	–	–	F-A, S-J	Category A	–	Liable to ignite spontaneously according to moisture content.	1372
–	T1	TP33	F-A, S-J	Category A	–	Liable to ignite spontaneously according to the oil content.	1373
–	T3	TP33	F-A, S-J	Category B SW1 SW24	SG65	Brown to greenish-brown product derived from oily fish. Strong odour which may affect other cargo. Liable to heat and ignite spontaneously.	1374
–	T1	TP33	F-A, S-J	Category A SW1 SW24	–	See entry above.	1374
–	T1 BK2	TP33	F-G, S-P	Category E H1	SG26	Obtained from coal gas purification. Strong odour which may taint other cargo. Liable to heat and ignite spontaneously. May evolve hydrogen sulphide, sulphur dioxide and hydrogen cyanide, which are toxic gases. This substance should have been cooled and weathered for not less than eight weeks before shipment, unless packed in a metal drum.	1376
–	T3	TP33	F-H, S-M	Category C	–	Liable to ignite spontaneously if dry.	1378
–	–	–	F-A, S-J	Category A	–	Liable to ignite spontaneously. The provisions of this Code should not apply to manufactured articles properly aged.	1379
–	–	–	F-G, S-L	Category D H1	SG26	Colourless liquid. Boiling point range: 48°C to 63°C. Ignites spontaneously in air. Decomposes in contact with water, evolving hydrogen, a flammable gas. Toxic if swallowed, by skin contact or by inhalation.	1380
–	T9	TP3 TP31	<u>F-A</u> , S-J	Category E	–	Ignites spontaneously in air. Melting point: 44°C. Toxic if swallowed, by skin contact or by inhalation. Receptacles are usually filled with substance in the liquid state which subsequently solidifies. A sufficient ullage should be allowed.	1381

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1382	POTASSIUM SULPHIDE, ANHYDROUS or POTASSIUM SULPHIDE with less than 30% water of crystallization	4.2	–	II	–	0	E2	P410	PP31 PP40	IBC06	B21
1383	PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.	4.2	–	I	274	0	E0	P404	PP31	–	–
1384	SODIUM DITHIONITE (SODIUM HYDROSULPHITE)	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
1385	SODIUM SULPHIDE, ANHYDROUS or SODIUM SULPHIDE with less than 30% water of crystallization	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
1386	SEED CAKE, containing vegetable oil (a) mechanically expelled seeds, containing more than 10% oil or more than 20% oil and moisture combined	4.2	–	III	29 929 973	0	E0	P003 LP02	PP20	IBC08	B3 B6
1386	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	4.2	–	III	29 929 973	0	E0	P003 LP02	PP20	IBC08	B3 B6
△ 1387	WOOL WASTE, WET	4.2	–	III	123	0	E1	P410	–	–	–
1389	ALKALI METAL AMALGAM, LIQUID	4.3	–	I	182	0	E0	P402	PP31	–	–
1390	ALKALI METAL AMIDES	4.3	–	II	182	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1391	ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION	4.3	–	I	182 183	0	E0	P402	PP31	–	–
1392	ALKALINE EARTH METAL AMALGAM, LIQUID	4.3	–	I	183	0	E0	P402	PP31	–	–
1393	ALKALINE EARTH METAL ALLOY, N.O.S.	4.3	–	II	183	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1394	ALUMINIUM CARBIDE	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5					
–	T3	TP33	F-A, S-J	Category A	SGG18 SG35	Black solid, absorbs moisture to become crystalline. Liable to ignite spontaneously. In contact with acids, evolves hydrogen sulphide, a toxic and flammable gas. Reacts violently with acids.	1382
–	T21	TP7 TP33	F-G, S-M	Category D H1	SGG15 SG26	Liable to ignite spontaneously in air. If shaken, may produce sparks. In contact with water, evolves hydrogen, a flammable gas.	1383
–	T3	TP33	F-A, S-J	Category E H1	–	White or grey crystalline powder. Liable to heat and ignite spontaneously in air and to evolve sulphur dioxide, an irritating gas.	1384
–	T3	TP33	F-A, S-J	Category A	SGG18 SG35	Black solid, absorbs moisture to become crystalline. Liable to ignite spontaneously. In contact with acids, evolves hydrogen sulphide, a toxic and flammable gas. Reacts violently with acids.	1385
–	BK2	–	F-A, S-J	Category E SW1 SW25 H1	–	Residue remaining after oil has been expelled mechanically from oil-bearing seeds. Used mainly as animal feed or fertilizer. The most common seed cakes include those derived from coconut (copra), cottonseed, groundnut (peanut), linseed, maize (hominy chop), niger seed, palm kernel, rape seed, rice bran, soya bean and sunflower seed and they may be shipped in the form of cake, flakes, pellets, meal, etc. May self-heat slowly and, if wet or containing an excessive proportion of unoxidized oil, ignite spontaneously. Before shipment, this cargo should be properly aged. The duration of ageing varies with the oil content. Smoking and the use of naked lights should be prohibited during loading and unloading and on entry to the cargo space(s) at any time.	1386
–	BK2	–	F-A, S-J	Category A SW1 SW25 H1	–	Residue remaining after oil has been extracted by a solvent process or expelled mechanically from oil-bearing seeds. Used mainly as animal feed or fertilizer. The most common seed cakes include those derived from coconut (copra), cottonseed, groundnut (peanut), linseed, maize (hominy chop), niger seed, palm kernel, rape seed, rice bran, soya bean and sunflower seed and they may be shipped in the form of cake, flakes, pellets, meal, etc. May self-heat slowly and, if wet or containing an excessive proportion of unoxidized oil, ignite spontaneously. The seed cake should be substantially free from flammable solvent. Before shipment, this cargo should be properly aged. The duration of ageing varies with the oil content. Smoking and the use of naked lights should be prohibited during loading and unloading and on entry to the cargo space(s) at any other time.	1386
–	–	–	F-A, S-J	Category A	–	Liable to ignite spontaneously in air according to moisture content.	1387
–	–	–	<u>F-G</u> , S-N	Category D H1	SGG7 SGG11 SG26 SG35	Silvery liquid, consisting of metal alloyed with mercury. Reacts with moisture, water or acids, evolving hydrogen, a flammable gas. When heated, evolves toxic vapours.	1389
–	T3	TP33	F-G, S-O	Category E SW2 H1	SG26 SG35	Small crystals. Decomposes in contact with water or acids, evolving ammonia vapour and producing highly caustic alkaline solutions.	1390
–	–	–	<u>F-G</u> , S-N	Category D H1	SG26 SG35	Finely divided alkali metal or alkaline earth metal, suspended in a liquid. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction.	1391
–	–	–	<u>F-G</u> , S-N	Category D H1	SGG7 SGG11 SG26 SG35	Consists of metal alloyed with mercury. Contains 2% to 10% alkaline earth metals and may contain up to 98% mercury. Reacts with moisture, water or acids, evolving hydrogen, a flammable gas. When heated, evolves toxic vapours.	1392
–	T3	TP33	F-G, S-N	Category E H1	SG26 SG35	When containing a substantial proportion of alkaline earth metals, readily decomposed by water and reacts violently with acids, evolving hydrogen, which may be ignited by the heat of the reaction.	1393
–	T3	TP33	F-G, S-N	Category A H1	SG26 SG35	Yellow crystals or powder. In contact with water, rapidly evolves methane, a flammable gas. Reacts violently with acids.	1394



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1395	ALUMINIUM FERROSILICON POWDER	4.3	6.1	II	932	500 g	E2	P410	PP31 PP40	IBC05	B21
1396	ALUMINIUM POWDER, UNCOATED	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1396	ALUMINIUM POWDER, UNCOATED	4.3	–	III	223	1 kg	E1	P410	PP31	IBC08	B4
1397	ALUMINIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
1398	ALUMINIUM SILICON POWDER, UNCOATED	4.3	–	III	37 223 932	1 kg	E1	P410	PP31	IBC08	B4
1400	BARIUM	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1401	CALCIUM	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
△ 1402	CALCIUM CARBIDE	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
△ 1402	CALCIUM CARBIDE	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1403	CALCIUM CYANAMIDE with more than 0.1% calcium carbide	4.3	–	III	38 934	1 kg	E1	P410	PP31	IBC08	B4
1404	CALCIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1405	CALCIUM SILICIDE	4.3	–	II	932	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1405	CALCIUM SILICIDE	4.3	–	III	223 932	1 kg	E1	P410	PP31	IBC08	B4
1407	CAESIUM	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
1408	FERROSILICON with 30% or more but less than 90% silicon	4.3	6.1	III	39 223 932	1 kg	E1	P003	PP20 PP100	IBC08	B4 B6

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3 BK2	TP33	F-G, S-N	Category A SW2 SW5 H1	SG26 SG32 SG35 SG36	In contact with water, caustic alkalis or acids, evolves hydrogen, a flammable gas. Impurities may, under similar circumstances, produce phosphine and arsine, which are highly toxic gases.	1395
–	T3	TP33	F-G, S-O	Category A H1	SGG15 SG26 SG32 SG35 SG36	In contact with water, caustic alkalis or acids, evolves hydrogen, a flammable gas. When finely divided aluminium dust is scattered, it is easily ignited by naked lights, causing explosion. May explode when in contact with oxidizing substances. Reacts with liquid halogenated hydrocarbons.	1396
–	T1	TP33	F-G, S-O	Category A H1	SGG15 SG26 SG32 SG35 SG36	See entry above.	1396
–	–	–	<u>F-G</u> , S-N	Category E SW2 SW5 H1	SG26 SG35	Crystals or powder. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	1397
–	T1 BK2	TP33	F-G, S-N	Category A SW2 SW5 H1	SGG15 SG26 SG32 SG35 SG36	In contact with water, caustic alkalis or acids, generates heat and evolves hydrogen, a flammable gas. May also evolve silanes, which are toxic and may ignite spontaneously.	1398
–	T3	TP33	F-G, S-O	Category E H1	SG26 SG35	Readily decomposes in water and reacts violently with acids, evolving hydrogen, which may be ignited by the heat of the reaction. Harmful if swallowed or by dust inhalation.	1400
–	T3	TP33	F-G, S-O	Category E H1	SG26 SG35	Readily decomposes in water and reacts violently with acids, evolving hydrogen, which may be ignited by the heat of the reaction.	1401
–	–	–	<u>F-G</u> , S-N	Category B H1	SG26 SG35	Solid. In contact with water, rapidly evolves acetylene, a highly flammable gas, which may be ignited by the heat of the reaction. Acetylene forms highly explosive compounds with salts of some heavy metals. Reacts violently with acids.	1402
–	T3	TP33	F-G, S-N	Category B H1	SG26 SG35	See entry above.	1402
–	T1	TP33	F-G, S-N	Category A H1	SG26 SG35	Powder or granules. Contains calcium carbide as an impurity. In contact with water, evolves ammonia and acetylene, which is a highly flammable gas. Reacts vigorously with acids.	1403
–	–	–	<u>F-G</u> , S-O	Category E H1	SG26 SG35	Solid. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1404
–	T3	TP33	F-G, S-N	Category B SW5 H1	SG26 SG35	In contact with water, evolves hydrogen, a flammable gas. If calcium carbide is present as an impurity, acetylene will also be evolved. In contact with acids, evolves silane, a spontaneously flammable gas.	1405
–	T1	TP33	F-G, S-N	Category B SW5 H1	SG26 SG35	See entry above.	1405
–	–	–	<u>F-G</u> , S-N	Category D H1	SG26 SG35	White, ductile, soft metal. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	1407
–	T1 BK2	TP33	F-G, S-N	Category A SW2 SW5 H1	SG26 SG35 SG36	In contact with moisture, water, alkalis or acids, may evolve hydrogen, a flammable gas, which may form explosive mixtures with air, and also arsine and phosphine, which are highly toxic gases. These gases are evolved in proportions which, under mechanically ventilated conditions, make the poison hazard by far predominant over the explosion hazard. The rate of gas evolution is greatest from freshly broken surfaces, so is liable to increase whenever the cargo is disturbed, such as during loading. Toxic if swallowed, by skin contact or by vapour inhalation.	1408

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.	4.3	–	I	274	0	E0	P403	PP31	–	–
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.	4.3	–	II	274	500 g	E2	P410	PP31 PP40	IBC04	–
1410	LITHIUM ALUMINIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1411	LITHIUM ALUMINIUM HYDRIDE, ETHEREAL	4.3	3	I	–	0	E0	P402	–	–	–
1413	LITHIUM BOROHYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1414	LITHIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1415	LITHIUM	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
1417	LITHIUM SILICON	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	4.2	I	–	0	E0	P403	PP31	–	–
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	4.2	II	–	0	E2	P410	PP31 PP40	IBC05	B21
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	4.2	III	223	0	E1	P410	PP31	IBC08	B4
1419	MAGNESIUM ALUMINIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
1420	POTASSIUM METAL ALLOYS, LIQUID	4.3	–	I	–	0	E0	P402	PP31	–	–
1421	ALKALI METAL ALLOY, LIQUID, N.O.S.	4.3	–	I	182	0	E0	P402	PP31	–	–
1422	POTASSIUM SODIUM ALLOYS, LIQUID	4.3	–	I	–	0	E0	P402	PP31	–	–
1423	RUBIDIUM	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	<u>F–G</u> , S–L	Category D H1	SG26 SG35	Solids. React with water, moisture or acids, evolving hydrogen, which may be ignited by the heat of the reaction.	1409
–	T3	TP33	F–G, S–L	Category D H1	SG26 SG35	See entry above.	1409
–	–	–	<u>F–G</u> , S–M	Category E H1	SG26 SG35	White powder. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1410
–	–	–	<u>F–G</u> , S–M	Category D SW2 H1	SG26	Clear, colourless solution of lithium aluminium hydride in ether. Reacts readily with water, evolving hydrogen, a flammable gas. Evaporates readily to leave a residue which is easily ignited by a spark or friction.	1411
–	–	–	<u>F–G</u> , S–O	Category E H1	SG26 SG35	Crystalline, hygroscopic solid. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1413
–	–	–	<u>F–G</u> , S–N	Category E H1	SG26 SG35	Solid. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1414
–	T9	TP7 TP33	<u>F–G</u> , S–N	Category E H1	SG26 SG35	White, ductile, soft metal. Floats on water. Readily decomposes in water and reacts violently with acids, evolving hydrogen, which may be ignited by the heat of the reaction. For fire-fighting purposes, dry lithium chloride powder, dry sodium chloride or graphite powder should be carried on board when this substance is transported.	1415
–	T3	TP33	F–G, S–N	Category A SW5 H1	SG26	Shiny lumps, crystals or powder, with sharp irritating odour. Reacts readily with water, evolving hydrogen and silane, flammable gases. Enough heat may be generated to ignite the gas mixture in air.	1417
–	–	–	<u>F–G</u> , S–O	Category A H1	SGG15 SG26 SG32 SG35	In contact with moisture, water or acids, evolves hydrogen, a flammable gas. Magnesium dust is easily ignited, causing explosion. May explode when in contact with oxidizing substances. For fire-fighting purposes, dry lithium chloride powder, dry sodium chloride or graphite powder should be carried on board when this substance is transported. Reacts with liquid halogenated hydrocarbons.	1418
–	T3	TP33	F–G, S–O	Category A H1	SGG15 SG26 SG32 SG35	See entry above.	1418
–	T1	TP33	F–G, S–O	Category A H1	SGG15 SG26 SG32 SG35	See entry above.	1418
–	–	–	<u>F–G</u> , S–N	Category E SW2 SW5 H1	SG26 SG35	Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	1419
–	–	–	<u>F–G</u> , S–L	Category D H1	SG26 SG35	Soft, silvery metal liquid. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	1420
–	–	–	<u>F–G</u> , S–L	Category D H1	SG26 SG35	Flows like mercury at ordinary temperatures. Not volatile. Reacts violently with moisture, water or acids, evolving hydrogen, a flammable gas, and developing considerable heat, which may ignite the gas.	1421
–	T9	TP3 TP7 TP31	<u>F–G</u> , S–L	Category D H1	SG26 SG35	Soft, silvery metal liquid. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	1422
–	–	–	<u>F–G</u> , S–N	Category D H1	SG26 SG35	Silvery-white, ductile, soft metal. Melting point: 39°C. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	1423



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1426	SODIUM BOROHYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1427	SODIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1428	SODIUM	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
△ 1431	SODIUM METHYLATE	4.2	8	II	–	0	E2	P410	PP31	IBC05	B21
1432	SODIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
1433	STANNIC PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
1435	ZINC ASHES	4.3	–	III	223 935	1 kg	E1	P002	PP100	IBC08	B4
1436	ZINC POWDER or ZINC DUST	4.3	4.2	I	–	0	E0	P403	PP31	–	–
1436	ZINC POWDER or ZINC DUST	4.3	4.2	II	–	0	E2	P410	PP31 PP40	IBC07	B21
1436	ZINC POWDER or ZINC DUST	4.3	4.2	III	223	0	E1	P410	PP31	IBC08	B4
1437	ZIRCONIUM HYDRIDE	4.1	–	II	–	1 kg	E2	P410	PP31 PP40	IBC04	–
1438	ALUMINIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1439	AMMONIUM DICHROMATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1442	AMMONIUM PERCHLORATE	5.1	–	II	152	1 kg	E2	P002	–	IBC06	B21
1444	AMMONIUM PERSULPHATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-G, S-O	Category E H1	SG26 SG35	Crystalline powder. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1426
–	–	–	F-G, S-O	Category E H1	SG26 SG35	White powder. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	1427
–	T9	TP7 TP33	F-G, S-N	Category D H1	SG26 SG35	White, ductile, soft metal. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	1428
–	T3	TP33	F-A, S-L	Category B	SGG18 SG35	White, amorphous, free-flowing, hygroscopic powder. Decomposed by water to form methanol, a flammable liquid, which may be ignited by the heat of the reaction. Causes burns to skin, eyes and mucous membranes.	1431
–	–	–	F-G, S-N	Category E SW2 SW5 H1	SG26 SG35	Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	1432
–	–	–	F-G, S-N	Category E SW2 SW5 H1	SG26 SG35	Silver-white solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	1433
–	T1 BK2	TP33	F-G, S-O	Category A H1	SGG7 SGG15 SG26	In contact with moisture or water, liable to evolve dangerous gases, including hydrogen, a flammable gas.	1435
–	–	–	F-G, S-O	Category A H1	SGG7 SGG15 SG26 SG35 SG36	In contact with water, alkalis or acids, evolves hydrogen, a flammable gas. Zinc dust is easily ignited, causing explosion. May explode when in contact with oxidizing substances.	1436
–	T3	TP33	F-G, S-O	Category A H1	SGG7 SGG15 SG26 SG35 SG36	See entry above.	1436
–	T1	TP33	F-G, S-O	Category A H1	SGG7 SGG15 SG26 SG35 SG36	See entry above.	1436
–	T3	TP33	F-A, S-G	Category E	–	Black coloured powder.	1437
–	T1 BK2	TP33	F-A, S-Q	Category A	–	Colourless or white crystals. Deliquescent. Soluble in water. Slightly corrosive. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1438
–	T3	TP33	F-H, S-Q	Category A	SGG2 SG75	Orange needles. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. May ignite spontaneously in contact with strong acids. Harmful if swallowed.	1439
–	T3	TP33	F-H, S-Q	Category E	SGG2 SGG13 SG49 SG60	White crystals or powder. Soluble in water. When heated, decomposes readily, even with explosion, evolving toxic fumes. Forms highly explosive mixtures with combustible material or powdered metals. These mixtures are sensitive to friction and are liable to ignite.	1442
–	T1	TP33	F-A, S-Q	Category A	SGG2	White crystals or powder. Soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite.	1444



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1445	BARIUM CHLORATE, SOLID	5.1	6.1	II	–	1 kg	E2	P002	–	IBC06	B21
1446	BARIUM NITRATE	5.1	6.1	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1447	BARIUM PERCHLORATE, SOLID	5.1	6.1	II	–	1 kg	E2	P002	–	IBC06	B21
1448	BARIUM PERMANGANATE	5.1	6.1	II	–	1 kg	E2	P002	–	IBC06	B21
1449	BARIUM PEROXIDE	5.1	6.1	II	–	1 kg	E2	P002	PP100	IBC06	B21
1450	BROMATES, INORGANIC, N.O.S.	5.1	–	II	274 350	1 kg	E2	P002	–	IBC08	B4 B21
1451	CAESIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1452	CALCIUM CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1453	CALCIUM CHLORITE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1454	CALCIUM NITRATE	5.1	–	III	208 967	5 kg	E1	P002 LP02	–	IBC08	B3
1455	CALCIUM PERCHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Colourless crystals or powder. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	1445
–	T3	TP33	F-A, S-Q	Category A	–	White crystals. Mixtures with combustible material are readily ignited and may burn fiercely. Toxic if swallowed, by skin contact or by dust inhalation.	1446
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	White crystals or powder, soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	1447
–	T3	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	Brownish-violet crystals. Soluble in water. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	1448
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	White powder. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Toxic if swallowed, by skin contact or by dust inhalation.	1449
–	T3	TP33	F-H, S-Q	Category A	SGG3 SG38 SG49	Solids. React vigorously with sulphuric acid. React fiercely with cyanides when heated or by friction, and may form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Transport of ammonium bromate and mixtures of a bromate with an ammonium salt is prohibited.	1450
–	T1	TP33	F-A, S-Q	Category A	–	White powder. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1451
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	White to yellowish deliquescent crystals. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1452
–	T3	TP33	F-H, S-Q	Category A	SGG5 SG38 SG49	White deliquescent crystals. Soluble in water. Sensitive to heat. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1453
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW23	–	White deliquescent solid, soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1454
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	White crystals or powder. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1455



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1456	CALCIUM PERMANGANATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21
1457	CALCIUM PEROXIDE	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1458	CHLORATE AND BORATE MIXTURE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1458	CHLORATE AND BORATE MIXTURE	5.1	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID	5.1	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1461	CHLORATES, INORGANIC, N.O.S.	5.1	–	II	274 351	1 kg	E2	P002	–	IBC06	B21
1462	CHLORITES, INORGANIC, N.O.S.	5.1	–	II	274 352	1 kg	E2	P002	–	IBC06	B21
1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	6.1/8	II	–	1 kg	E2	P002	PP31	IBC08	B4 B21
1465	DIDYMIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1466	FERRIC NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1467	GUANIDINE NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1469	LEAD NITRATE	5.1	6.1 P	II	–	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	Violet deliquescent crystals. Soluble in water. Occurs in hydrated form. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1456
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	White or yellowish powder. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or on contact with water or acids, decomposes, evolving oxygen.	1457
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Solid. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1458
–	T1	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	See entry above.	1458
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Deliquescent solid. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1459
–	T1	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	See entry above.	1459
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Solids. React vigorously with sulphuric acid. React fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Transport of ammonium chlorate and mixtures of a chlorate with an ammonium salt is <b>prohibited</b> .	1461
–	T3	TP33	F-H, S-Q	Category A	SGG5 SG38 SG49	Solids. React vigorously with sulphuric acid. React fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Transport of ammonium chlorite and mixtures of a chlorite with an ammonium salt is <b>prohibited</b> .	1462
–	T3	TP33	F-A, S-Q	Category A	SG6 SG16 SG19	Dark purplish-red deliquescent crystals. Soluble in water. Mixtures with combustible material may ignite spontaneously and may even explode. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1463
–	T1	TP33	F-A, S-Q	Category A	–	Hygroscopic solid. Mixture of neodymium nitrate and praseodymium nitrate. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1465
–	T1	TP33	F-A, S-Q	Category A	–	Violet deliquescent crystals. Soluble in water. Melting point: 47°C. Mixtures with combustible material are readily ignited and may burn fiercely. Solutions in water are slightly corrosive to most metals. Harmful if swallowed.	1466
–	T1	TP33	F-A, S-Q	Category A	SG45	White granules. Soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite. NITROGUANIDINE is a different substance.	1467
–	T3	TP33	F-A, S-Q	Category A	SGG7 SGG9	White crystals. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Toxic if swallowed, by skin contact or by dust inhalation.	1469

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1470	LEAD PERCHLORATE, SOLID	5.1	6.1 P	II	–	1 kg	E2	P002	–	IBC06	B21
1471	LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1471	LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE	5.1	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1472	LITHIUM PEROXIDE	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1473	MAGNESIUM BROMATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1474	MAGNESIUM NITRATE	5.1	–	III	332 967	5 kg	E1	P002 LP02	–	IBC08	B3
1475	MAGNESIUM PERCHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21
1476	MAGNESIUM PEROXIDE	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1477	NITRATES, INORGANIC, N.O.S.	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1477	NITRATES, INORGANIC, N.O.S.	5.1	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1479	OXIDIZING SOLID, N.O.S.	5.1	–	I	274 900	0	E0	P503	–	IBC05	B1
1479	OXIDIZING SOLID, N.O.S.	5.1	–	II	274 900	1 kg	E2	P002	–	IBC08	B4 B21
1479	OXIDIZING SOLID, N.O.S.	5.1	–	III	223 274 900	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-H, S-Q	Category A	SGG7 SGG9 SGG13 SG38 SG49	White crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	1470
–	T3	TP33	F-H, S-Q	Category A SW1 SW8	SGG8 SG35 SG38 SG49 SG53 SG60	White powder with pungent odour. Soluble in water. Critical ambient temperature of decomposition may be as low as 60°C. May cause fire in contact with organic material or ammonium compounds. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes.	1471
–	T1	TP33	F-H, S-Q	Category A SW1 SW8	SGG8 SG35 SG38 SG49 SG53 SG60	See entry above.	1471
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	White powder. Soluble in water. Solution in water is an alkaline corrosive liquid. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen.	1472
–	T3	TP33	F-H, S-Q	Category A	SGG3 SG38 SG49	White deliquescent crystals or crystalline powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1473
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW23	–	White deliquescent crystals, soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1474
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	White crystals or powder. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1475
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	White powder. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Harmful if swallowed.	1476
–	T3	TP33	F-A, S-Q	Category A	SG38 SG49	Solids. Solid mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1477
–	T1	TP33	F-A, S-Q	Category A	SG38 SG49	See entry above.	1477
–	–	–	F-A, S-Q	Category D	SG38 SG49 SG60 SG61	–	1479
–	T3	TP33	F-A, S-Q	Category B	SG38 SG49 SG60 SG61	–	1479
–	T1	TP33	F-A, S-Q	Category B	SG38 SG49 SG60 SG61	–	1479

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1481	PERCHLORATES, INORGANIC, N.O.S.	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21
1481	PERCHLORATES, INORGANIC, N.O.S.	5.1	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	–	II	274 353	1 kg	E2	P002	–	IBC06	B21
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	–	III	223 274 353	5 kg	E1	P002	–	IBC08	B3
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	–	III	223	5 kg	E1	P002 LP02	PP100 L3	IBC08	B4
1484	POTASSIUM BROMATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1485	POTASSIUM CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1486	POTASSIUM NITRATE	5.1	–	III	964 967	5 kg	E1	P002 LP02	–	IBC08	B3
1487	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1488	POTASSIUM NITRITE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1489	POTASSIUM PERCHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	Solids. React vigorously with sulphuric acid. React fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1481
–	T1	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	See entry above.	1481
–	T3	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	Solids. React vigorously with sulphuric acid. React fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Transport of ammonium permanganate and mixtures of a permanganate with an ammonium salt is <b>prohibited</b> .	1482
–	T1	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	See entry above.	1482
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen.	1483
–	T1	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	See entry above.	1483
–	T3	TP33	F-H, S-Q	Category A	SGG3 SG38 SG49	White crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible materials, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1484
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	White crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1485
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW23	–	White crystals or powder. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1486
–	T3	TP33	F-A, S-Q	Category A	SGG12 SG38 SG49	Deliquescent solid. Soluble in water. May cause fire in contact with organic material such as wood, cotton or straw. Mixtures with ammonium compounds or cyanides may explode. Harmful if swallowed. May be shipped in the form of fused solid block or lumps.	1487
–	T3	TP33	F-A, S-Q	Category A	SGG12 SG38 SG49	White or slightly yellowish deliquescent crystals or sticks. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Harmful if swallowed.	1488
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	White crystals or powder, soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1489



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1490	POTASSIUM PERMANGANATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1491	POTASSIUM PEROXIDE	5.1	–	I	–	0	E0	P503	–	IBC06	B1
1492	POTASSIUM PERSULPHATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1493	SILVER NITRATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1494	SODIUM BROMATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1495	SODIUM CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1496	SODIUM CHLORITE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1498	SODIUM NITRATE	5.1	–	III	964 967	5 kg	E1	P002 LP02	–	IBC08	B3
1499	SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	5.1	–	III	964 967	5 kg	E1	P002 LP02	–	IBC08	B3
1500	SODIUM NITRITE	5.1	6.1	III	–	5 kg	E1	P002	–	IBC08	B3
1502	SODIUM PERCHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	Dark purple crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1490
–	–	–	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	Yellow powder. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite, following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Highly irritating to skin, eyes and mucous membranes.	1491
–	T1	TP33	F-A, S-Q	Category A	SG39 SG49	White crystals or powder. Soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite. Reacts fiercely with cyanides when heated or by friction. May form explosive mixture with powdered metals or ammonium compounds.	1492
–	T3	TP33	F-A, S-Q	Category A	SGG7	Colourless crystals. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed. Irritating to skin and mucous membranes.	1493
–	T3	TP33	F-H, S-Q	Category A	SGG3 SG38 SG49	White deliquescent crystals. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1494
–	T3 BK2	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Colourless deliquescent crystals. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1495
–	T3	TP33	F-H, S-Q	Category A	SGG5 SG38 SG49	Colourless deliquescent solid. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1496
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW23	–	Colourless deliquescent solid. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed. This substance in the impure form is known as Chile Saltpetre.	1498
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW23	–	Colourless, hygroscopic solid. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed. Mixture prepared as a fertilizer.	1499
–	T1	TP33	F-A, S-Q	Category A	SGG12 SG38 SG49	Colourless deliquescent solid. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Decomposes if heated, giving off toxic nitrous fumes and gases supporting combustion. Harmful if swallowed or by dust inhalation.	1500
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	Colourless crystals or powder, soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1502

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1503	SODIUM PERMANGANATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21
1504	SODIUM PEROXIDE	5.1	–	I	–	0	E0	P503	–	IBC05	B1
1505	SODIUM PERSULPHATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1506	STRONTIUM CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1507	STRONTIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1508	STRONTIUM PERCHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21
1509	STRONTIUM PEROXIDE	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1510	TETRANITROMETHANE	6.1	5.1	I	354	0	E0	P602	–	–	–
1511	UREA HYDROGEN PEROXIDE	5.1	8	III	–	5 kg	E1	P002	–	IBC08	B3
1512	ZINC AMMONIUM NITRITE	5.1	–	–	900	–	–	–	–	–	–
1513	ZINC CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1514	ZINC NITRATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1515	ZINC PERMANGANATE	5.1	–	II	–	1 kg	E2	P002	–	IBC06	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60	Red crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1503
–	–	–	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	Pale yellow coarse powder or granules. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite, following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Highly irritating to skin, eyes and mucous membranes.	1504
–	T1	TP33	F-A, S-Q	Category A	SG39 SG49	Colourless crystals or powder. Soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite. Reacts fiercely with cyanides when heated or by friction. May form explosive mixture with powdered metals or ammonium compounds.	1505
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Colourless deliquescent solid, soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1506
–	T1	TP33	F-A, S-Q	Category A	–	Colourless solid. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	1507
–	T3	TP33	F-H, S-Q	Category A	SGG13 SG38 SG49	Colourless crystals or powder, soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1508
–	T3	TP33	F-G, S-Q	Category C H1	SGG16 SG16 SG26 SG35 SG59	Colourless powder. Particularly if wetted with small quantities of water, a mixture with combustible materials may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen.	1509
–	–	–	F-H, S-Q	Category D SW2	SG16	Colourless liquid with a pungent odour. Freezing point: 12.5°C. Insoluble in water. Mixtures with combustible material are readily ignited, burn fiercely and may also explode by friction or shock. Highly toxic if swallowed, by skin contact or by inhalation.	1510
–	T1	TP33	F-A, S-Q	Category A H1	–	White crystals or powder. Soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite. Irritating to skin, eyes and mucous membranes.	1511
–	–	–	–	–		Transport is <b>prohibited</b> .	1512
–	T3	TP33	F-H, S-Q	Category A	SGG4 SGG7 SG38 SG49	Colourless or yellowish crystals. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1513
–	T3	TP33	F-H, S-Q	Category A	SGG7	Colourless solid. Soluble in water. Melting point: 36°C. Mixtures with combustible material are readily ignited and may burn fiercely. Solutions in water are slightly corrosive. Harmful if swallowed.	1514
–	T3	TP33	F-H, S-Q	Category D	SGG7 SGG14 SG38 SG49 SG60	Violet-brown or black crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	1515

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UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1516	ZINC PEROXIDE	5.1	–	II	–	1 kg	E2	P002	PP100	IBC06	B21
1517	ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
△ 1541	ACETONE CYANOHYDRIN, STABILIZED	6.1	– P	I	354	0	E0	P602	–	–	–
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOIDS SALTS, SOLID, N.O.S.	6.1	–	I	43 274	0	E5	P002	–	IBC07	B1
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOIDS SALTS, SOLID, N.O.S.	6.1	–	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOIDS SALTS, SOLID, N.O.S.	6.1	–	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1545	ALLYL ISOTHIOCYANATE, STABILIZED	6.1	3	II	386	100 mL	E0	P001	–	IBC02	–
1546	AMMONIUM ARSENATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1547	ANILINE	6.1	– P	II	279	100 mL	E4	P001	–	IBC02	–
1548	ANILINE HYDROCHLORIDE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1549	ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.	6.1	–	III	45 274	5 kg	E1	P002 LP02	–	IBC08	B3
1550	ANTIMONY LACTATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1551	ANTIMONY POTASSIUM TARTRATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1553	ARSENIC ACID, LIQUID	6.1	–	I	–	0	E5	P001	PP31	–	–
1554	ARSENIC ACID, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1555	ARSENIC BROMIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1556	ARSENIC COMPOUND, LIQUID, N.O.S. inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s., and Arsenic sulphides, n.o.s.	6.1	–	I	43 274	0	E5	P001	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-G, S-Q	Category C H1	SGG7 SGG16 SG16 SG26 SG35 SG59	White powder. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen.	1516
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. Highly explosive in the dry state or if insufficiently wetted. May react violently in contact with heavy metals or their salts.	1517
–	T20	TP2 TP13	F-A, <u>S-A</u>	Category D SW1 SW2	SGG6 SG35 SG36	Colourless to amber liquid evolving toxic vapour. Miscible with water. Unstable in contact with acids and alkalis, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by inhalation.	1541
–	T6	TP33	F-A, S-A	Category A	–	A wide range of toxic solids, generally of vegetable origin. Toxic if swallowed, by skin contact or by inhalation.	1544
–	T3	TP33	F-A, S-A	Category A	–	See entry above.	1544
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	1544
–	T7	TP2	F-E, S-D	Category D SW1 SW2	–	Colourless liquid evolving toxic vapour which is irritating and causes tears. Flashpoint: 46°C c.c. Toxic if swallowed, by skin contact or by inhalation.	1545
–	T3	TP33	F-A, S-A	Category A	SGG2 SG36	White powder or crystals. Soluble in water. Reacts with alkalis, evolving ammonia gas. Toxic if swallowed, by skin contact or by dust inhalation.	1546
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	SG35	Colourless, oily, volatile liquid. Reacts with acids. Toxic if swallowed, by skin contact or by inhalation.	1547
–	T1	TP33	F-A, S-A	Category A	–	White, crystalline solid. Soluble in water. Decomposes to aniline in contact with alkalis. Toxic if swallowed, by skin contact or by inhalation.	1548
–	T1	TP33	F-A, S-A	Category A	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by inhalation.	1549
–	T1	TP33	F-A, S-A	Category A	–	White powder or crystals. Toxic if swallowed, by skin contact or by dust inhalation.	1550
–	T1	TP33	F-A, S-A	Category A	–	Colourless crystals or white powder. Toxic if swallowed, by skin contact or by dust inhalation.	1551
–	T20	TP2 TP7 TP13	F-A, S-A	Category B	SG33	White, deliquescent crystals which readily become liquid. Melting point: approximately 35°C. Miscible with water. In contact with metals, may evolve arsine, an extremely toxic gas. Highly toxic if swallowed, by skin contact or by inhalation.	1553
–	T3	TP33	F-A, S-A	Category A	–	White crystals with a relatively high melting point. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1554
–	T3	TP33	F-A, S-A	Category A SW1 SW2 H2	–	White, deliquescent crystals. Melting point: approximately 33°C. Decomposed by water, evolving hydrogen bromide, an irritating and corrosive gas, apparent as white fumes. Toxic if swallowed, by skin contact or by dust inhalation.	1555
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	SG70	A wide variety of toxic liquids. In contact with acids, arsenic sulphide evolves hydrogen sulphide, a toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	1556

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UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1556	ARSENIC COMPOUND, LIQUID, N.O.S. inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s., and Arsenic sulphides, n.o.s.	6.1	–	II	43 274	100 mL	E4	P001	–	IBC02	–
1556	ARSENIC COMPOUND, LIQUID, N.O.S. inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s., and Arsenic sulphides, n.o.s.	6.1	–	III	43 223 274	5 L	E1	P001 LP01	–	IBC03	–
1557	ARSENIC COMPOUND, SOLID, N.O.S. inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	–	I	43 274	0	E5	P002	–	IBC07	B1
1557	ARSENIC COMPOUND, SOLID, N.O.S. inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	–	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
1557	ARSENIC COMPOUND, SOLID, N.O.S. inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	–	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1558	ARSENIC	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1559	ARSENIC PENTOXIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1560	ARSENIC TRICHLORIDE	6.1	–	I	–	0	E0	P602	–	–	–
1561	ARSENIC TRIOXIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1562	ARSENICAL DUST	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1564	BARIUM COMPOUND, N.O.S.	6.1	–	II	177 274	500 g	E4	P002	–	IBC08	B4 B21
1564	BARIUM COMPOUND, N.O.S.	6.1	–	III	177 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1565	BARIUM CYANIDE	6.1	– P	I	–	0	E5	P002	PP31	IBC07	B1
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1567	BERYLLIUM POWDER	6.1	4.1	II	–	500 g	E4	P002	PP100	IBC08	B4 B21
1569	BROMOACETONE	6.1	3 P	II	–	0	E0	P602	–	–	–
1570	BRUCINE	6.1	–	I	43	0	E5	P002	–	IBC07	B1

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	SG70	A wide variety of toxic liquids. In contact with acids, arsenic sulphide evolves hydrogen sulphide, a toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	1556
–	T7	TP2 TP28	F-A, S-A	Category B SW2	SG70	See entry above.	1556
–	T6	TP33	F-A, S-A	Category A	SG70	A wide variety of toxic solids. In contact with acids, arsenic sulphide evolves hydrogen sulphide, a toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1557
–	T3	TP33	F-A, S-A	Category A	SG70	See entry above.	1557
–	T1	TP33	F-A, S-A	Category A	SG70	See entry above.	1557
–	T3	TP33	F-A, S-A	Category A	–	Silvery, brittle, crystalline solid with the appearance of a metal. Toxic if swallowed, by skin contact or by dust inhalation.	1558
–	T3	TP33	F-A, S-A	Category A	–	White, deliquescent powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1559
–	T14	TP2 TP13	F-A, S-A	Category B SW2	–	Colourless, oily liquid. Fumes in moist air, evolving hydrogen chloride, an irritating and corrosive gas, apparent as white fumes. Reacts with water. Highly toxic if swallowed, by skin contact or by inhalation.	1560
–	T3	TP33	F-A, S-A	Category A	–	White powder. Slightly soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1561
–	T3	TP33	F-A, S-A	Category A	–	Fine powder. Toxic if swallowed, by skin contact or by dust inhalation.	1562
–	T3	TP33	F-A, S-A	Category A	–	White powder, lumps or crystals. Toxic if swallowed, by skin contact or by inhalation.	1564
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	1564
–	T6	TP33	F-A, <u>S-A</u>	Category A SW2	SGG6 SG35	White crystals or powder. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1565
–	T3	TP33	F-A, S-A	Category A	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by dust inhalation.	1566
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	1566
–	T3	TP33	F-G, S-G	Category A H1	SG25 SG26	White, metallic powder. Toxic if swallowed, by skin contact or by dust inhalation.	1567
–	T20	TP2 TP13	F-E, <u>S-D</u>	Category D SW2	–	When pure, colourless liquid evolving irritating vapour (“Tear Gas”). Flashpoint: approximately 45°C c.c. Toxic if swallowed, by skin contact or by inhalation.	1569
–	T6	TP33	F-A, S-A	Category A	–	White crystals or powder. Highly toxic if swallowed, by skin contact or by dust inhalation.	1570



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1571	BARIUM AZIDE, WETTED with not less than 50% water, by mass	4.1	6.1	I	28	0	E0	P406	PP31	–	–
1572	CACODYLIC ACID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1573	CALCIUM ARSENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1574	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1575	CALCIUM CYANIDE	6.1	– P	I	–	0	E5	P002	PP31	IBC07	B1
1577	CHLORODINITROBENZENES, LIQUID	6.1	– P	II	279	100 mL	E4	P001	–	IBC02	–
1578	CHLORONITROBENZENES, SOLID	6.1	–	II	279	500 g	E4	P002	–	IBC08	B4 B21
1579	4-CHLORO- <i>o</i> -TOLUIDINE HYDROCHLORIDE, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
△ 1580	CHLOROPICRIN	6.1	– P	I	354	0	E0	P601	–	–	–
1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	2.3	–	–	–	0	E0	P200	–	–	–
1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	2.3	–	–	–	0	E0	P200	–	–	–
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	–	I	43 274 315	0	E0	P602	–	–	–
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	–	II	43 274	100 mL	E0	P001	–	IBC02	–
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	–	III	43 223 274	5 L	E0	P001 LP01	–	IBC03	–
1585	COPPER ACETOARSENITE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1586	COPPER ARSENITE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1587	COPPER CYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	– P	I	47 274	0	E5	P002	–	IBC07	B1
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	– P	II	47 274	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-B, S-J	Category D	SGG17 SG7 SG30	Desensitized explosive. White crystals or powder. Explosive and sensitive to friction in the dry state. Toxic if swallowed, by skin contact or by dust inhalation. May form extremely sensitive compounds with heavy metals or their salts.	1571
–	T3	TP33	F-A, S-A	Category E	SGG1 SG35 SG36 SG49	Colourless crystals or white powder with an offensive odour. Soluble in water. May react with acids, evolving dimethylarsine, an extremely toxic gas. Toxic if swallowed, by skin contact or by dust inhalation.	1572
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	White powder. Slightly soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1573
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	White powder. Toxic if swallowed, by skin contact or by dust inhalation.	1574
–	T6	TP33	F-A, <u>S-A</u>	Category A SW2	SGG6 SG35	White crystals or powder. Decomposes slowly in water to form a weak hydrogen cyanide solution. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1575
–	T7	TP2	F-A, <u>S-A</u>	Category A	SG15	Colourless liquids. May explode if involved in a fire. Toxic if swallowed, by skin contact or by inhalation.	1577
–	T3	TP33	F-A, S-A	Category A	–	Yellow crystals. Melting point: approximately 30°C to 80°C. Toxic if swallowed, by skin contact or by dust inhalation.	1578
–	T1	TP33	F-A, S-A	Category A	–	Dry solid or paste. Toxic if swallowed, by skin contact or by dust inhalation.	1579
–	T22	TP2 TP13	F-A, <u>S-A</u>	Category D SW2	–	Colourless, oily liquid. Highly toxic if swallowed, by skin contact or by inhalation.	1580
–	T50	–	F-C, S-U	Category D SW1 SW2	–	Extremely volatile liquid evolving highly toxic vapours. Highly toxic by skin contact or by inhalation. Causes burns to skin and eyes; vapour irritating to mucous membranes.	1581
–	T50	–	F-C, S-U	Category D SW1 SW2	–	Extremely volatile liquid evolving highly toxic vapours. Highly toxic by skin contact or by inhalation. Causes burns to skin and eyes; vapour irritating to mucous membranes.	1582
–	–	–	F-A, S-A	Category C SW2	–	A wide range of liquid mixtures. May evolve highly toxic vapour. Toxic if swallowed, by skin contact or by inhalation.	1583
–	–	–	F-A, S-A	Category C SW2	–	See entry above.	1583
–	–	–	F-A, S-A	Category C SW2	–	See entry above.	1583
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Green powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1585
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Yellowish-green powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1586
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SG35	Green powder. Slightly soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1587
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG6 SG35	Solids. May be soluble in water. On contact with water, may form a weak hydrogen cyanide solution. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation. The provisions of this Code shall not apply to complex ferricyanides and ferrocyanides.	1588
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SG35	See entry above.	1588

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	– P	III	47 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1589	CYANOGEN CHLORIDE, STABILIZED	2.3	8 P	–	386	0	E0	P200	–	–	–
1590	DICHLOROANILINES, LIQUID	6.1	– P	II	279	100 mL	E4	P001	–	IBC02	–
1591	o-DICHLOROBENZENE	6.1	–	III	279	5 L	E1	P001 LP01	–	IBC03	–
1593	DICHLOROMETHANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	B8
1594	DIETHYL SULPHATE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
△ 1595	DIMETHYL SULPHATE	6.1	8	I	354	0	E0	P602	–	–	–
1596	DINITROANILINES	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1597	DINITROBENZENES, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC03	–
1597	DINITROBENZENES, LIQUID	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1598	DINITRO-o-CRESOL	6.1	– P	II	43	500 g	E4	P002	–	IBC08	B4 B21
1599	DINITROPHENOL SOLUTION	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
1599	DINITROPHENOL SOLUTION	6.1	– P	III	223	5 L	E1	P001 LP01	–	IBC03	–
1600	DINITROTOLUENES, MOLTEN	6.1	– P	II	–	0	E0	–	–	–	–
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P001	–	–	–
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, <u>S-A</u>	Category A	SGG6 SG35	Solids. May be soluble in water. On contact with water, may form a weak hydrogen cyanide solution. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation. The provisions of this Code shall not apply to complex ferricyanides and ferrocyanides.	1588
–	–	–	F-C, S-U	Category D SW1 SW2	–	Liquefied, non-flammable, toxic and corrosive gas with an irritating odour. Produces severe tearing of the eyes. On contact with water, reacts violently to give off highly toxic and corrosive fumes. Much heavier than air (2.1). Boiling point: 13°C. Toxic by skin contact or by inhalation. Highly irritating to skin, eyes and mucous membranes.	1589
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	–	Colourless liquid with a penetrating odour. Liquid mixtures of various isomers of dichloroanilines, some of which in the pure state may be solid, with a melting point varying from 24°C to 72°C. Toxic if swallowed, by skin contact or by inhalation.	1590
–	T4	TP1	F-A, S-A	Category A	SGG10	Volatile liquid. Melting point: approximately –17°C. Toxic if swallowed, by skin contact or by inhalation.	1591
–	T7	TP2	F-A, S-A	Category A	SGG10	Colourless, volatile liquid with heavy vapours. Boiling point: 40°C. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	1593
–	T7	TP2	F-A, S-A	Category C	–	Colourless, oily liquid. Readily hydrolysed by moisture to sulphuric acid, which is a corrosive liquid. Toxic if swallowed, by skin contact or by inhalation.	1594
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless, volatile liquid evolving toxic vapours. In the presence of moisture, corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1595
–	T3	TP33	F-A, S-A	Category A	SG15	Yellow crystals in pure form. Insoluble in water. May explode if involved in a fire. Toxic if swallowed, by skin contact or by inhalation.	1596
–	T7	TP2	F-A, S-A	Category A	SG15	Yellow solutions. May explode if involved in a fire. Toxic if swallowed, by skin contact or by inhalation.	1597
–	T7	TP2	F-A, S-A	Category A	SG15	See entry above.	1597
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Yellow crystals or crystallized mass. Slightly soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1598
–	T7	TP2	F-A, <u>S-A</u>	Category A	SG30	Substance when pure consists of yellow crystals. Slightly soluble in water. May form extremely sensitive compounds with heavy metals or their salts. Toxic if swallowed, by skin contact or by inhalation.	1599
–	T4	TP1	F-A, <u>S-A</u>	Category A	SG30	See entry above.	1599
–	T7	TP3	F-A, <u>S-A</u>	Category C	–	Molten liquid. This entry covers the 2,3-, 2,4-, 2,5-, 2,6-, 3,4- and 3,5-isomers having melting points between 52°C and 93°C. Toxic if swallowed, by skin contact or by inhalation.	1600
–	T6	TP33	F-A, S-A	Category A SW2	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by inhalation.	1601
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	1601
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	1601
–	–	–	F-A, S-A	Category A	–	A wide range of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	1602
–	–	–	F-A, S-A	Category A	–	See entry above.	1602

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UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
1603	ETHYL BROMOACETATE	6.1	3	II	–	100 mL	E0	P001	–	IBC02	–
1604	ETHYLENEDIAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
△ 1605	ETHYLENE DIBROMIDE	6.1	–	I	354	0	E0	P602	–	–	–
1606	FERRIC ARSENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1607	FERRIC ARSENITE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1608	FERROUS ARSENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1611	HEXAETHYL TETRAPHOSPHATE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
1612	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	2.3	–	–	–	0	E0	P200	–	–	–
1613	HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide	6.1	– P	I	900	0	E0	P601	–	–	–
1614	HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material	6.1	– P	I	386	0	E0	P099	–	–	–
1616	LEAD ACETATE	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1617	LEAD ARSENATES	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1618	LEAD ARSENITES	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1620	LEAD CYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1621	LONDON PURPLE	6.1	– P	II	43	500 g	E4	P002	–	IBC08	B4 B21
1622	MAGNESIUM ARSENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1623	MERCURIC ARSENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1624	MERCURIC CHLORIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1625	MERCURIC NITRATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)	
–	–	–	F-A, S-A	Category A	–	A wide range of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	1602
–	T7	TP2	F-E, S-D	Category D SW2	–	Colourless, flammable liquid evolving irritating vapour (“Tear Gas”). Flashpoint: 58°C c.c. Toxic if swallowed, by skin contact or by inhalation.	1603
–	T7	TP2	F-E, S-C	Category A SW2	SGG18 SG35	Volatile, colourless, hygroscopic flammable liquid with an ammonia-like odour. Flashpoint: 34°C c.c. Miscible with water. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1604
–	T20	TP2 TP13	F-A, S-A	Category D SW2	SGG10	Colourless, volatile liquid. Highly toxic if swallowed, by skin contact or by inhalation.	1605
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Green crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1606
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Brown or yellow powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1607
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Green powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1608
–	T7	TP2	F-A, <u>S-A</u>	Category E SW2	–	Yellow liquid. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	1611
–	–	–	F-C, S-U	Category D SW2	–	Toxic if swallowed, by skin contact or by inhalation.	1612
–	T14	TP2 TP13	F-A, <u>S-A</u>	Category D SW2	–	Colourless liquid evolving extremely toxic vapour with a bitter almond odour. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation. Transport of HYDROCYANIC ACID, AQUEOUS SOLUTION with more than 20% hydrogen cyanide and of HYDROGEN CYANIDE, AQUEOUS SOLUTION with more than 20% hydrogen cyanide is <b>prohibited</b> .	1613
–	–	–	F-A, <u>S-U</u>	Category D SW1 SW2	–	Very volatile, colourless liquid, evolving extremely toxic flammable vapours, absorbed in a porous inert material. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	1614
–	T1	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG9	White crystals, or brown or grey lumps. Soluble in water. Toxic if swallowed, by skin contact or by inhalation.	1616
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG9	White crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1617
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG9	White powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1618
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SGG9 SG35	White powder. Slightly soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1620
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Mixture of arsenic trioxide, lime and ferric oxide, used as an insecticide. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1621
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	White crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1622
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Yellow crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1623
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1624
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White, deliquescent crystals or powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1625

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UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1626	MERCURIC POTASSIUM CYANIDE	6.1	– P	I	–	0	E5	P002	PP31	IBC07	B1
1627	MERCUROUS NITRATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1629	MERCURY ACETATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1630	MERCURY AMMONIUM CHLORIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1631	MERCURY BENZOATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1634	MERCURY BROMIDES	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1636	MERCURY CYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1637	MERCURY GLUCONATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1638	MERCURY IODIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1639	MERCURY NUCLEATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1640	MERCURY OLEATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1641	MERCURY OXIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1642	MERCURY OXYCYANIDE, DESENSITIZED	6.1	– P	II	900	500 g	E4	P002	–	IBC08	B4 B21
1643	MERCURY POTASSIUM IODIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1644	MERCURY SALICYLATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1645	MERCURY SULPHATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1646	MERCURY THIOCYANATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1647	METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID	6.1	– P	I	354	0	E0	P602	–	–	–
1648	ACETONITRILE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1649	MOTOR FUEL ANTI-KNOCK MIXTURE	6.1	– P	I	–	0	E0	P602	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SGG11 SG35	Colourless crystals. Soluble in water. Reacts with acids, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1626
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1627
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1629
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG2 SGG7 SGG11	White crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1630
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals. Toxic if swallowed, by skin contact or by dust inhalation.	1631
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1634
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SGG11 SG35	White crystals or powder. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1636
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Solid. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1637
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Red crystals or powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1638
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Brown powder containing about 20% mercury. Toxic if swallowed, by skin contact or by dust inhalation.	1639
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Yellow oily paste. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	1640
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Orange powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1641
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SGG11 SG15 SG35	White crystals or powder. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. May explode if involved in a fire. Toxic if swallowed, by skin contact or by dust inhalation. Should be sufficiently phlegmatized (mercury oxycyanide–mercury cyanide mixtures containing not less than 65% by mass of mercury cyanide can be regarded as adequately phlegmatized). Transport of MERCURY OXYCYANIDE pure is prohibited.	1642
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Yellow, deliquescent crystals or powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1643
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1644
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Decomposes in water, forming sulphuric acid. Toxic if swallowed, by skin contact or by dust inhalation.	1645
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1646
–	T20	TP2 TP13	F-A, <u>S-A</u>	Category D SW2	SGG10	Solutions of methyl bromide gas, evolving toxic vapour. Methyl bromide has a boiling point of approximately 4°C. Highly toxic if swallowed, by skin contact or by inhalation.	1647
–	T7	TP2	F-E, S-D	Category B SW2	–	Colourless, volatile liquid. Flashpoint: 2°C c.c. Explosive limits: 3% to 16%. Miscible with water. When involved in a fire, evolves toxic cyanide fumes. Harmful if swallowed, by skin contact or by inhalation.	1648
–	T14	TP2 TP13	F-A, <u>S-A</u>	Category D SW1 SW2	SGG7 SGG9	Volatile liquids evolving toxic vapour. Mixture of tetraethyllead or tetramethyllead with ethylene dibromide and ethylene dichloride. Insoluble in water. Highly toxic if swallowed, by skin contact or by inhalation.	1649

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1650	beta-NAPHTHYLAMINE, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1651	NAPHTHYLTHIOUREA	6.1	–	II	43	500 g	E4	P002	–	IBC08	B4 B21
1652	NAPHTHYLUREA	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1653	NICKEL CYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1654	NICOTINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	–	I	43 274	0	E5	P002	–	IBC07	B1
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	–	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	–	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	–	II	43	100 mL	E4	P001	–	IBC02	–
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	–	III	43 223	5 L	E1	P001 LP01	–	IBC03	–
1657	NICOTINE SALICYLATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1658	NICOTINE SULPHATE SOLUTION	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1658	NICOTINE SULPHATE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1659	NICOTINE TARTRATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1660	NITRIC OXIDE, COMPRESSED	2.3	5.1/8	–	–	0	E0	P200	–	–	–
1661	NITROANILINES (o-, m-, p-)	6.1	–	II	279	500 g	E4	P002	–	IBC08	B4 B21
1662	NITROBENZENE	6.1	–	II	279	100 mL	E4	P001	–	IBC02	–
1663	NITROPHENOLS (o-, m-, p-)	6.1	–	III	279	5 kg	E1	P002 LP02	–	IBC08	B3
1664	NITROTOLUENES, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1665	NITROXYLENES, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1669	PENTACHLOROETHANE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-A	Category A	–	White crystals. Toxic if swallowed, by skin contact or by inhalation.	1650
–	T3	TP33	F-A, S-A	Category A	–	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1651
–	T3	TP33	F-A, S-A	Category A	–	Crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1652
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SG35	Green crystals or powder. Insoluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1653
–	–	–	F-A, S-A	Category A	–	Thick colourless oil, turning brown on exposure to air. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	1654
–	T6	TP33	F-A, S-A	Category B	–	A wide variety of toxic solids. Toxic if swallowed, by skin contact or by dust inhalation.	1655
–	T3	TP33	F-A, S-A	Category A	–	See entry above.	1655
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	1655
–	–	–	F-A, S-A	Category A	–	Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	1656
–	–	–	F-A, S-A	Category A	–	See entry above.	1656
–	T3	TP33	F-A, S-A	Category A	–	White crystals. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1657
–	T7	TP2	F-A, S-A	Category A	–	Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	1658
–	T7	TP2	F-A, S-A	Category A	–	See entry above.	1658
–	T3	TP33	F-A, S-A	Category A	–	White crystals. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1659
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive gas. Strong oxidizing agent. On contact with air, gives off brown fumes which are toxic by inhalation, with delayed effect similar to phosgene. Heavier than air (1.04). Highly irritating to skin, eyes and mucous membranes.	1660
–	T3	TP33	F-A, S-A	Category A	–	Yellow crystals. Toxic if swallowed, by skin contact or by dust inhalation. <i>ortho</i> -NITROANILINES may be carried in the molten state.	1661
–	T7	TP2	F-A, S-A	Category A SW2	–	Oily liquid, evolving toxic vapour. Melting point: approximately 6°C. Toxic if swallowed, by skin contact or by inhalation.	1662
–	T1	TP33	F-A, S-A	Category A	–	Yellow crystals. Some isomers may have a melting point as low as 44°C. Toxic if swallowed, by skin contact or by dust inhalation. May be carried in the molten state.	1663
–	T7	TP2	F-A, S-A	Category A	–	Yellow liquids. Melting points: <i>ortho</i> -NITROTOLUENE: –4°C, <i>meta</i> -NITROTOLUENE: 15°C. Toxic if swallowed, by skin contact or by inhalation.	1664
–	T7	TP2	F-A, S-A	Category A	–	Yellow liquids. Melting points: 2-NITRO-3-XYLENE: 14°C to 16°C, 3-NITRO-2-XYLENE: 7°C to 9°C, 4-NITRO-3-XYLENE: 2°C. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	1665
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	SGG10	Colourless liquid. Toxic if swallowed, by skin contact or by inhalation.	1669

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 1670	PERCHLOROMETHYL MERCAPTAN	6.1	– P	I	354	0	E0	P602	–	–	–
1671	PHENOL, SOLID	6.1	–	II	279	500 g	E4	P002	–	IBC08	B4 B21
1672	PHENYL CARBYLAMINE CHLORIDE	6.1	–	I	–	0	E0	P602	–	–	–
1673	PHENYLENEDIAMINES (o-, m-, p-)	6.1	–	III	279	5 kg	E1	P002 LP02	–	IBC08	B3
1674	PHENYLMERCURIC ACETATE	6.1	– P	II	43	500 g	E4	P002	–	IBC08	B4 B21
1677	POTASSIUM ARSENATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1678	POTASSIUM ARSENITE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1679	POTASSIUM CUPROCYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1680	POTASSIUM CYANIDE, SOLID	6.1	– P	I	–	0	E5	P002	PP31	IBC07	B1
1683	SILVER ARSENITE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1684	SILVER CYANIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1685	SODIUM ARSENATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1686	SODIUM ARSENITE, AQUEOUS SOLUTION	6.1	–	II	43	100 mL	E4	P001	–	IBC02	–
1686	SODIUM ARSENITE, AQUEOUS SOLUTION	6.1	–	III	43 223	5 L	E1	P001 LP01	–	IBC03	–
1687	SODIUM AZIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1688	SODIUM CACODYLATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1689	SODIUM CYANIDE, SOLID	6.1	– P	I	–	0	E5	P002	PP31	IBC07	B1
1690	SODIUM FLUORIDE, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1691	STRONTIUM ARSENITE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1692	STRYCHNINE or STRYCHNINE SALTS	6.1	– P	I	43	0	E5	P002	–	IBC07	B1

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T20	TP2 TP13	F-A, <u>S-A</u>	Category D SW2	–	Yellow, oily, volatile liquid evolving irritating vapour (“Tear Gas”). Slowly decomposes in contact with water, producing hydrochloric acid. Reacts with iron or steel, evolving carbon tetrachloride. Corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation.	1670
–	T3	TP33	F-A, S-A	Category A	–	Colourless or white crystals or crystallized mass. Melting point: 43°C (pure product). Soluble in water. Toxic if swallowed, by skin contact or by vapour inhalation. Rapidly absorbed through the skin.	1671
–	T14	TP2 TP13	F-A, S-A	Category D SW2	–	Pale yellow, oily liquid with an irritating unpleasant odour. Highly toxic if swallowed, by skin contact or by inhalation.	1672
–	T1	TP33	F-A, S-A	Category A	–	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation. May be carried in the molten state.	1673
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7	Toxic if swallowed, by skin contact or by dust inhalation.	1674
–	T3	TP33	F-A, S-A	Category A	–	Colourless crystals or white powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1677
–	T3	TP33	F-A, S-A	Category A	–	White powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1678
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG6 SG35	White crystals or powder. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1679
–	T6	TP33	F-A, <u>S-A</u>	Category B	SGG6 SG35	White, deliquescent crystals or lumps. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1680
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7	Yellow powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1683
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	SGG6 SGG7 SG35	White powder. Insoluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by dust inhalation.	1684
–	T3	TP33	F-A, S-A	Category A	–	Colourless crystals. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1685
–	T7	TP2	F-A, S-A	Category A	–	Colourless. Toxic if swallowed, by skin contact or by inhalation.	1686
–	T4	TP2	F-A, S-A	Category A	–	See entry above.	1686
–	–	–	F-A, S-A	Category A	SGG17 SG15 SG30 SG35	Colourless crystals. May react vigorously with acids to form hydrazoic acid, which is an explosive. May form extremely sensitive compounds with heavy metals or their salts. May explode if involved in a fire. Toxic if swallowed, by skin contact or by dust inhalation.	1687
–	T3	TP33	F-A, S-A	Category A	SG35	White, deliquescent solid with a foul odour. Reacts with acids, evolving dimethylarsine, an extremely toxic gas. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1688
–	T6	TP33	F-A, <u>S-A</u>	Category B	SGG6 SG35	White, deliquescent crystals or lumps. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1689
–	T1	TP33	F-A, S-A	Category A	SG35	White crystals or powder. React with acids, evolving hydrogen fluoride, a toxic, irritating and corrosive gas, apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation.	1690
–	T3	TP33	F-A, S-A	Category A	–	White powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1691
–	T6	TP33	F-A, <u>S-A</u>	Category A	–	White crystals or powder. Strychnine is slightly soluble; the salts are soluble in water. Highly toxic if swallowed, by skin contact or by dust inhalation.	1692

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UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1	–	I	274	0	E0	P001	PP31	–	–
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1	–	II	274	0	E0	P001	PP31	IBC02	–
1694	BROMOBENZYL CYANIDES, LIQUID	6.1	–	I	138	0	E0	P001	PP31	–	–
△ 1695	CHLOROACETONE, STABILIZED	6.1	3/8 P	I	354	0	E0	P602	–	–	–
1697	CHLOROACETOPHENONE, SOLID	6.1	–	II	–	0	E0	P002	–	IBC08	B4 B21
1698	DIPHENYLAMINE CHLOROARSINE	6.1	– P	I	–	0	E0	P002	PP31	–	–
1699	DIPHENYLCHLOROARSINE, LIQUID	6.1	– P	I	–	0	E0	P001	PP31	–	–
1700	TEAR GAS CANDLES	6.1	4.1	–	–	0	E0	P600	–	–	–
1701	XYLYL BROMIDE, LIQUID	6.1	–	II	–	0	E0	P001	PP31	IBC02	–
1702	1,1,2,2-TETRACHLOROETHANE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
1704	TETRAETHYL DITHIOPYROPHOSPHATE	6.1	– P	II	43	100 mL	E4	P001	–	IBC02	–
1707	THALLIUM COMPOUND, N.O.S.	6.1	– P	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
1708	TOLUIDINES, LIQUID	6.1	– P	II	279	100 mL	E4	P001	–	IBC02	–
1709	2,4-TOLUYLENEDIAMINE, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1710	TRICHLOROETHYLENE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1711	XYLIDINES, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1712	ZINC ARSENATE, ZINC ARSENITE or ZINC ARSENATE AND ZINC ARSENITE MIXTURE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1713	ZINC CYANIDE	6.1	– P	I	–	0	E5	P002	–	IBC07	B1
1714	ZINC PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
1715	ACETIC ANHYDRIDE	8	3	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-A, S-A	Category D SW2	–	“Tear gas substance” is a generic term for substances which, in minute quantities dispersed in air, cause extreme eye irritation and profuse tears. Toxic if swallowed, by skin contact or by inhalation.	1693
–	–	–	F-A, S-A	Category D SW2	–	See entry above.	1693
–	T14	TP2 TP13	F-A, S-A	Category D SW1 SW2 H2	SGG6 SG35	Volatile liquids evolving irritating vapour (“Tear Gas”). Melting points: <i>ortho</i> -BROMOBENZYL CYANIDE 1°C. Highly toxic if swallowed, by skin contact or by inhalation.	1694
–	T20	TP2 TP13	F-E, <u>S-C</u>	Category D SW2	SG5 SG8	Flammable, corrosive, colourless liquid, evolving irritating vapour (“Tear Gas”). Miscible with water. Flashpoint: 25°C c.c. Highly toxic if swallowed, by skin contact or by inhalation.	1695
–	T3	TP33	F-A, S-A	Category D SW1 SW2 H2	–	White crystals evolving irritating vapour (“Tear Gas”). Melting point may be as low as 20°C. Toxic if swallowed, by skin contact or by inhalation.	1697
–	T6	TP33	F-A, <u>S-A</u>	Category D SW2	–	Volatile, yellow crystals evolving irritating vapour (“Tear Gas”). Highly toxic if swallowed, by skin contact or by inhalation.	1698
–	–	–	F-A, <u>S-A</u>	Category D SW2	–	When pure, colourless liquid. The commercial product may be a dark brown liquid. Volatile liquid evolving an irritating vapour (“Tear Gas”). Highly toxic if swallowed, by skin contact or by inhalation.	1699
–	–	–	F-A, S-G	Category D SW2	–	Devices containing tear-producing substances which, in minute quantities dispersed in air, cause extreme eye irritation and profuse tears.	1700
–	T7	TP2 TP13	F-A, S-A	Category D SW2	SGG10	Colourless liquid, evolving irritating vapour (“Tear Gas”). Toxic if swallowed, by skin contact or by inhalation.	1701
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	SGG10	Colourless liquid with a chloroform-like odour. Toxic if swallowed, by skin contact or by inhalation.	1702
–	T7	TP2	F-A, <u>S-A</u>	Category D SW2	–	Colourless liquid. In the presence of moisture, corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation.	1704
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1707
–	T7	TP2	F-A, <u>S-A</u>	Category A	–	Colourless liquids. Toxic if swallowed, by skin contact or by inhalation.	1708
–	T1	TP33	F-A, S-A	Category A	–	White crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	1709
–	T4	TP1	F-A, S-A	Category A SW2	SGG10	Colourless liquid with a chloroform-like odour. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	1710
–	T7	TP2	F-A, S-A	Category A	–	Toxic if swallowed, by skin contact or by inhalation.	1711
–	T3	TP33	F-A, S-A	Category A	SGG7	Crystalline solid. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1712
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG6 SGG7 SG35	White crystals or powder. Insoluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	1713
–	–	–	<u>F-G</u> , S-N	Category E SW2 SW5 H1	SGG7 SG26 SG35	Grey crystals or powder. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances.	1714
–	T7	TP2	F-E, S-C	Category A SW2	SGG1 SG36 SG49	Colourless, flammable liquid with an irritating odour. Flashpoint: 54°C c.c. Immiscible with water. In the presence of moisture, corrosive to most metals. Vapour irritates mucous membranes.	1715



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1716	ACETYL BROMIDE	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1717	ACETYL CHLORIDE	3	8	II	–	1 L	E2	P001	–	IBC02	B20
1718	BUTYL ACID PHOSPHATE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	–	III	223 274	5 L	E1	P001	–	IBC03	–
1722	ALLYL CHLOROFORMATE	6.1	3/8	I	–	0	E0	P001	–	–	–
1723	ALLYL IODIDE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1724	ALLYLTRICHLOROSILANE, STABILIZED	8	3	II	386	0	E0	P010	–	–	–
1725	ALUMINIUM BROMIDE, ANHYDROUS	8	–	II	937	1 kg	E2	P002	–	IBC08	B4 B21
1726	ALUMINIUM CHLORIDE, ANHYDROUS	8	–	II	937	1 kg	E2	P002	–	IBC08	B4 B21
1727	AMMONIUM HYDROGENDIFLUORIDE, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1728	AMYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions  (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T8	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid. Reacts violently with water, evolving hydrogen bromide, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1716
–	T8	TP2	F-E, S-C	Category B SW2	SGG1 SG36 SG49	Colourless liquid. Flashpoint: 5°C c.c. Boiling point: 51°C. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1717
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Yellow liquid. Insoluble in water. Mildly corrosive to most metals.	1718
–	T11	TP2 TP27	F-A, S-B	Category A	SGG18 SG22 SG35	Corrosive to aluminium, zinc and tin. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes.	1719
–	T7	TP1 TP28	F-A, S-B	Category A	SGG18 SG22 SG35	See entry above.	1719
–	T14	TP2 TP13	F-E, S-C	Category D SW2	SGG1 SG5 SG8 SG36 SG49	Colourless, flammable liquid, extremely irritating odour, causes tears. Flashpoint: 31°C c.c. When involved in a fire, evolves toxic gases. In the presence of moisture, corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1722
–	T7	TP2 TP13	F-E, S-C	Category B SW2	SGG1 SGG10 SG36 SG49	Yellow liquid with an irritating odour. Flashpoint: 5°C c.c. Immiscible with water. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1723
–	T10	TP2 TP7 TP13	F-E, S-C	Category C SW1 SW2	SGG1 SG36 SG49	Colourless, flammable liquid with a pungent odour. Flashpoint: 35°C c.c. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas, apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1724
–	T3	TP33	F-A, S-B	Category A SW2	SGG1 SG36 SG49	White to yellowish hygroscopic crystals. Forms corrosive vapours in moist air. Reacts violently with water, evolving heat and hydrogen bromide, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly irritating to skin, eyes and mucous membranes. The solid hydrated form of this substance is not subject to the provisions of this Code.	1725
–	T3	TP33	F-A, S-B	Category A SW2	SGG1 SG36 SG49	White to yellowish hygroscopic crystals. Forms corrosive vapours in moist air. Reacts violently with water, evolving heat and hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly irritating to skin, eyes and mucous membranes. The solid hydrated form of this substance is not subject to the provisions of this Code.	1726
–	T3	TP33	F-A, S-B	Category A SW1 SW2	SGG1 SGG2 SG35 SG36 SG49	White deliquescent crystals. Decomposed by heat or acids, evolving hydrogen fluoride, a toxic, extremely irritating and corrosive gas, apparent as white fumes. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes burns to skin and mucous membranes.	1727
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1728

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1729	ANISOYL CHLORIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1730	ANTIMONY PENTACHLORIDE, LIQUID	8	–	II	–	1 L	E2	P001	–	IBC02	–
1731	ANTIMONY PENTACHLORIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1731	ANTIMONY PENTACHLORIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1732	ANTIMONY PENTAFLUORIDE	8	6.1	II	–	1 L	E0	P001	–	IBC02	–
1733	ANTIMONY TRICHLORIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1736	BENZOYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1737	BENZYL BROMIDE	6.1	8	II	–	0	E4	P001	–	IBC02	B20
1738	BENZYL CHLORIDE	6.1	8	II	–	0	E4	P001	–	IBC02	B20
1739	BENZYL CHLOROFORMATE	8	– P	I	–	0	E0	P001	–	–	–
1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.	8	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
1741	BORON TRICHLORIDE	2.3	8	–	–	0	E0	P200	–	–	–
1742	BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID	8	–	II	–	1 L	E2	P001	–	IBC02	B20

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Crystalline powder. Melting point: 22°C. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1729
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Yellow, oily liquid with an offensive odour. May solidify by absorption of moisture. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1730
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Yellow liquid with an offensive odour. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1731
–	T4	TP1	F-A, S-B	Category C SW2	SGG1 SG36 SG49	See entry above.	1731
–	T7	TP2	F-A, S-B	Category D SW2	SGG1 SG6 SG8 SG10 SG12 SG36 SG49	Colourless liquid with a pungent odour. When anhydrous, mildly corrosive to glass, other siliceous materials and most metals. Reacts violently with water, evolving hydrogen fluoride, an irritating gas, highly corrosive to glass and other siliceous materials and most metals. Powerful oxidant, may cause fire in contact with readily flammable organic substances. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin and mucous membranes.	1732
–	T3	TP33	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Reacts slowly with water, evolving hydrogen chloride, an irritating and corrosive gas. In the presence of moisture, corrosive to most metals.	1733
–	T8	TP2 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid, very irritating odour, causes tears. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1736
–	T8	TP2 TP13	F-A, S-B	Category D SW2 H1	SGG1 SGG10 SG36 SG49	Colourless liquid with a pungent odour, causes tears. In the presence of moisture, corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1737
–	T8	TP2 TP13	F-A, S-B	Category D SW2 H1	SGG1 SGG10 SG36 SG49	Colourless liquid with a pungent odour. Causes tears. Immiscible with water, but hydrolyses slowly in contact with it. In the presence of moisture, corrosive to most metals. Toxic if swallowed, by skin contact or by vapour inhalation. Causes burns to skin, eyes and mucous membranes.	1738
–	T10	TP2 TP13	F-A, <u>S-B</u>	Category D SW2	SGG1 SG36 SG49	Colourless liquid with an irritating odour. Reacts with water. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1739
–	T3	TP33	F-A, S-B	Category A SW1 SW2	SGG1 SG35 SG36 SG49	Crystalline solids. Decomposed by heat or acid, evolving hydrogen fluoride, an extremely irritating and corrosive gas. In the presence of moisture, corrosive to glass, other siliceous materials and most metals. Cause burns to skin, eyes and mucous membranes.	1740
–	T1	TP33	F-A, S-B	Category A SW1 SW2	SGG1 SG35 SG36 SG49	See entry above.	1740
–	–	–	F-C, S-U	Category D SW1 SW2	–	Non-flammable, toxic and corrosive gas. Forms dense white corrosive fumes in moist air. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Much heavier than air (2.35). Highly irritating to skin, eyes and mucous membranes.	1741
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1742



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1743	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID	8	–	II	–	500 mL	E2	P001	–	IBC02	B20
1744	BROMINE or BROMINE SOLUTION	8	6.1	I	–	0	E0	P804	–	–	–
1745	BROMINE PENTAFLUORIDE	5.1	6.1/8	I	–	0	E0	P200	–	–	–
1746	BROMINE TRIFLUORIDE	5.1	6.1/8	I	–	0	E0	P200	–	–	–
1747	BUTYLTRICHLOROSILANE	8	3	II	–	0	E0	P010	–	–	–
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1	– P	II	314	1 kg	E2	P002	PP85	–	–
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1	– P	III	316	5 kg	E1	P002	PP85	–	–
1749	CHLORINE TRIFLUORIDE	2.3	5.1/8	–	–	0	E0	P200	–	–	–
1750	CHLOROACETIC ACID SOLUTION	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1743
–	T22	TP2 TP10 TP13	F-A, S-B	Category D SW1 SW2 H2	SGG1 SG6 SG16 SG17 SG19 SG36 SG49	Very dark brown, heavy liquid with an extremely irritating odour. Density: 3.1 (pure product). Boiling point: 59°C. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. Highly corrosive to most metals. Solutions have the same properties to a lesser degree, depending on concentration. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1744
–	T22	TP2 TP13	F-A, S-B	Category D SW1 SW2	SGG1 SG6 SG16 SG19 SG36 SG49	Colourless, heavy liquid with an extremely irritating odour. Boiling point: 40°C. Powerful oxidant; may cause fire in contact with organic material such as wood, cotton or straw. Reacts violently with water, evolving hydrogen fluoride, a toxic, extremely corrosive gas apparent as white fumes. In contact with acids or acid fumes, evolves highly toxic fumes of bromine, fluorine and their compounds. Highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1745
–	T22	TP2 TP13	F-A, S-B	Category D SW1 SW2	SGG1 SG6 SG16 SG19 SG36 SG49	Colourless, heavy liquid with an extremely irritating odour. Powerful oxidant; may cause fire in contact with organic material such as wood, cotton or straw. Reacts violently with water, evolving hydrogen fluoride, a toxic, extremely corrosive gas apparent as white fumes. In contact with acids or acid fumes, evolves highly toxic fumes of bromine, fluorine and their compounds. Highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1746
–	T10	TP2 TP7 TP13	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless, flammable liquid with a pungent odour. Flashpoint: 52°C c.c. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1747
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes.	1748
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	See entry above.	1748
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive gas. Forms dense, white, corrosive fumes in moist air. Reacts violently with water, evolving hydrogen fluoride, an irritating and corrosive gas apparent as white fumes. Corrosive to glass and to most metals. Powerful oxidizing agent which may cause fires with combustible materials. Much heavier than air. Highly irritating to skin, eyes and mucous membranes.	1749
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid. Corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1750

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1751	CHLOROACETIC ACID, SOLID	6.1	8	II	–	500 g	E4	P002	–	IBC08	B4 B21
△ 1752	CHLOROACETYL CHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
1753	CHLOROPHENYL-TRICHLOROSILANE	8	– P	II	–	0	E2	P010	–	–	–
1754	CHLOROSULPHONIC ACID (with or without sulphur trioxide)	8	–	I	–	0	E0	P001	–	–	–
1755	CHROMIC ACID SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1755	CHROMIC ACID SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1756	CHROMIC FLUORIDE, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1757	CHROMIC FLUORIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1757	CHROMIC FLUORIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1758	CHROMIUM OXYCHLORIDE	8	–	I	–	0	E0	P001	–	–	–
1759	CORROSIVE SOLID, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
1759	CORROSIVE SOLID, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
1759	CORROSIVE SOLID, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
1760	CORROSIVE LIQUID, N.O.S.	8	–	I	274	0	E0	P001	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless, very deliquescent crystals. Melting point may be as low as 50°C. In the presence of moisture, corrosive to most metals. Toxic if swallowed, by skin contact or by dust inhalation. Causes burns to skin, eyes and mucous membranes.	1751
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless liquid, with extremely irritating odour, causing tears. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1752
–	T10	TP2 TP7	F-A, <u>S-B</u>	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Irritating to skin, eyes and mucous membranes.	1753
–	T20	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1754
–	T8	TP2	F-A, S-B	Category C SW2	SGG1 SG6 SG8 SG10 SG12 SG36 SG49	Orange liquid. Powerful oxidant. May cause fire in contact with organic materials such as wood, cotton or straw. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1755
–	T4	TP1	F-A, S-B	Category C SW2	SGG1 SG6 SG8 SG10 SG12 SG36 SG49	See entry above.	1755
–	T3	TP33	F-A, S-B	Category A	SGG1 SG35 SG36 SG49	Green or violet crystals. Slightly soluble in water. Reacts with strong acids, evolving hydrogen fluoride, an extremely irritating and corrosive gas. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1756
–	T7	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Green liquid. Reacts with strong acids, evolving hydrogen fluoride, an extremely irritating and corrosive gas. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1757
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	See entry above.	1757
–	T10	TP2	F-A, S-B	Category C SW2	SGG1 SG6 SG16 SG17 SG19 SG36 SG49	Dark red liquid. Reacts violently with water, evolving hydrogen chloride and chlorine, both highly irritating and corrosive gases apparent as white fumes. Oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1758
–	T6	TP33	F-A, S-B	Category B	–	Causes burns to skin, eyes and mucous membranes.	1759
–	T3	TP33	F-A, S-B	Category A	–	See entry above.	1759
–	T1	TP33	F-A, S-B	Category A	–	See entry above.	1759
–	T14	TP2 TP27	F-A, S-B	Category B SW2	–	Causes burns to skin, eyes and mucous membranes.	1760

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1760	CORROSIVE LIQUID, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
1760	CORROSIVE LIQUID, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
1761	CUPRIETHYLENEDIAMINE SOLUTION	8	6.1 P	II	–	1 L	E2	P001	–	IBC02	–
1761	CUPRIETHYLENEDIAMINE SOLUTION	8	6.1 P	III	223	5 L	E1	P001	–	IBC03	–
1762	CYCLOHEXENYLTRICHLORO-SILANE	8	–	II	–	0	E0	P010	–	–	–
1763	CYCLOHEXYLTRICHLORO-SILANE	8	–	II	–	0	E0	P010	–	–	–
1764	DICHLOROACETIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1765	DICHLOROACETYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
1766	DICHLOROPHENYL-TRICHLOROSILANE	8	– P	II	–	0	E0	P010	–	–	–
1767	DIETHYLDICHLOROSILANE	8	3	II	–	0	E0	P010	–	–	–
1768	DIFLUOROPHOSPHORIC ACID, ANHYDROUS	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1769	DIPHENYLDICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1770	DIPHENYLMETHYL BROMIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1771	DODECYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1773	FERRIC CHLORIDE, ANHYDROUS	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP27	F-A, S-B	Category B SW2	–	Causes burns to skin, eyes and mucous membranes.	1760
–	T7	TP1 TP28	F-A, S-B	Category A SW2	–	See entry above.	1760
–	T7	TP2	F-A, <u>S-B</u>	Category A	SG35	Dark purple liquid with an ammonia-like odour. Corrosive to copper, aluminium, zinc and tin. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1761
–	T7	TP1 TP28	F-A, <u>S-B</u>	Category A	SG35	See entry above.	1761
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1762
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1763
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid. Melting point: –4°C. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1764
–	T7	TP2	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless liquid with an extremely irritating odour, causing tears. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1765
–	T10	TP2 TP7 TP13	F-A, <u>S-B</u>	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Irritating to skin, eyes and mucous membranes.	1766
–	T10	TP2 TP7 TP13	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless, flammable liquid with a pungent odour. Flashpoint: 25°C c.c. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1767
–	T8	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Colourless liquid. In the presence of moisture, highly corrosive to glass and other siliceous materials. Harmful if swallowed.	1768
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1769
–	T3	TP33	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Solid with an irritating odour. Causes tears. Melting point: 45°C. In the presence of moisture, corrosive to most metals. Vapour irritates mucous membranes.	1770
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1771
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Brown solid. In the presence of moisture, highly corrosive to most metals. The provisions of this Code should not apply to the solid hydrated form.	1773

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1774	FIRE EXTINGUISHER CHARGES, corrosive liquid	8	–	II	–	1 L	E0	P001	PP4	–	–
1775	FLUOROBORIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	–
1776	FLUOROPHOSPHORIC ACID, ANHYDROUS	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1777	FLUOROSULPHONIC ACID	8	–	I	–	0	E0	P001	–	–	–
1778	FLUOROSILICIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1779	FORMIC ACID with more than 85% acid, by mass	8	3	II	–	1 L	E2	P001	–	IBC02	–
1780	FUMARYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
1781	HEXADECYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1782	HEXAFLUOROPHOSPHORIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1784	HEXYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1786	HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE	8	6.1	I	–	0	E0	P001	–	–	–
1787	HYDRIODIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	–
1787	HYDRIODIC ACID	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1788	HYDROBROMIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5					
–	–	–	F-A, S-B	Category A	–	Usually, diluted sulphuric acid in small glass receptacles.	1774
–	T7	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless, clear liquid. Corrosive to most metals. May cause severe burns to skin, eyes and mucous membranes if containing free hydrofluoric acid.	1775
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes burns to skin, eyes and mucous membranes.	1776
–	T10	TP2	F-A, S-B	Category D SW2	SGG1a SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen fluoride, an extremely irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes severe burns to skin, eyes and mucous membranes.	1777
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid. Highly corrosive to most metals. May cause severe burns to skin, eyes and mucous membranes if containing free hydrofluoric acid.	1778
–	T7	TP2	F-E, S-C	Category A SW2	SGG1 SG36 SG49	Colourless flammable liquid with a pungent odour. Pure FORMIC ACID: flashpoint 42°C c.c. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1779
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Yellow liquid. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1780
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1781
–	T8	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes burns to skin, eyes and mucous membranes. Harmful if swallowed.	1782
–	T7	TP2	F-A, S-B	Category A	SG35	Colourless liquid. Causes burns to skin, eyes and mucous membranes.	1783
–	T4	TP1	F-A, S-B	Category A	SG35	See entry above.	1783
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1784
–	T10	TP2 TP13	F-A, S-B	Category D SW2	SGG1a SG36 SG49	Colourless syrupy liquid with a pungent odour. Mixture consists of between 70% and 80% by mass of acids and contains not less than 25% by mass of hydrofluoric acid. Reacts violently with water, developing heat. Highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin and mucous membranes.	1786
–	T7	TP2	F-A, S-B	Category C	SGG1a SG36 SG49	Colourless liquid. An aqueous solution of the gas hydrogen iodide. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1787
–	T4	TP1	F-A, S-B	Category C	SGG1a SG36 SG49	See entry above.	1787
–	T7	TP2	F-A, S-B	Category C	SGG1a SG36 SG49	Colourless liquid. An aqueous solution of the gas hydrogen bromide. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1788



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1788	HYDROBROMIC ACID	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1789	HYDROCHLORIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1789	HYDROCHLORIC ACID	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1790	HYDROFLUORIC ACID, with more than 60% hydrogen fluoride	8	6.1	I	–	0	E0	P802	PP79 PP81	–	–
1790	HYDROFLUORIC ACID, with not more than 60% hydrogen fluoride	8	6.1	II	–	1 L	E2	P001	PP81	IBC02	B20
1791	HYPOCHLORITE SOLUTION	8	– P	II	274 900	1 L	E2	P001	PP10	IBC02	B5
1791	HYPOCHLORITE SOLUTION	8	– P	III	223 274 900	5 L	E1	P001 LP01	–	IBC03	–
1792	IODINE MONOCHLORIDE, SOLID	8	–	II	–	1 kg	E0	P002	–	IBC08	B4 B21
1793	ISOPROPYL ACID PHOSPHATE	8	–	III	–	5 L	E1	P001 LP01	–	IBC02	–
1794	LEAD SULPHATE with more than 3% free acid	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1796	NITRATING ACID MIXTURE with more than 50% nitric acid	8	5.1	I	–	0	E0	P001	–	–	–
1796	NITRATING ACID MIXTURE with not more than 50% nitric acid	8	–	II	–	1 L	E0	P001	–	IBC02	B20
1798	NITROHYDROCHLORIC ACID	8	–	I	–	0	E0	P802	–	–	–
1799	NONYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-A, S-B	Category C	SGG1a SG36 SG49	Colourless liquid. An aqueous solution of the gas hydrogen bromide. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1788
–	T8	TP2	F-A, S-B	Category C	SGG1a SG36 SG49	Colourless liquid. An aqueous solution of the gas hydrogen chloride. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1789
–	T4	TP1	F-A, S-B	Category C	SGG1a SG36 SG49	See entry above.	1789
–	T10	TP2 TP13	F-A, S-B	Category D SW1 SW2 H2	SGG1a SG36 SG49	Colourless liquid with an irritating odour. Highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Both the liquid and its fumes cause severe burns to skin, eyes and mucous membranes.	1790
–	T8	TP2	F-A, S-B	Category D SW1 SW2 H2	SGG1a SG36 SG49	See entry above.	1790
–	T7	TP2 TP24	F-A, <u>S-B</u>	Category B	SGG8 SG20	Liquid with chlorine odour. In contact with acids, evolves very irritating and corrosive gases. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1791
–	T4	TP2 TP24	F-A, <u>S-B</u>	Category B	SGG8 SG20	See entry above.	1791
–	T7	TP2	F-A, S-B	Category D SW2	SGG1 SG6 SG16 SG17 SG19 SG36 SG49	Red, brown or black crystals. Reacts violently with water, evolving irritating and corrosive gases apparent as white fumes. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1792
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Oily liquid. Mildly corrosive to most metals.	1793
–	T3	TP33	F-A, S-B	Category A	SGG1 SGG7 SGG9 SG36 SG49	May be dry solid or slurry. Corrosive to most metals. Harmful if swallowed.	1794
–	T10	TP2 TP13	F-A, S-Q	Category D SW2	SGG1a SG16 SG36 SG49	Mixture of concentrated nitric and sulphuric acids. Oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, developing highly toxic gas (brown fumes). Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1796
–	T8	TP2 TP13	F-A, S-B	Category D SW2	SGG1a SG36 SG49	See entry above.	1796
–	T10	TP2 TP13	F-A, S-B	Category D SW2	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	Yellow liquid; a mixture of nitric acid and hydrochloric acid, usually in the proportion of 1:3. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, evolving suffocating and highly toxic gases. Highly corrosive to all metals. Causes severe burns to skin, eyes and mucous membranes.	1798
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1799

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1800	OCTADECYLTRICHLORO-SILANE	8	–	II	–	0	E0	P010	–	–	–
1801	OCTYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1802	PERCHLORIC ACID with not more than 50% acid, by mass	8	5.1	II	–	1 L	E0	P001	–	IBC02	–
1803	PHENOLSULPHONIC ACID, LIQUID	8	–	II	–	1 L	E2	P001	–	IBC02	–
1804	PHENYLTRICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
1805	PHOSPHORIC ACID, SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1806	PHOSPHORUS PENTACHLORIDE	8	–	II	–	1 kg	E0	P002	–	IBC08	B4 B21
1807	PHOSPHORUS PENTOXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1808	PHOSPHORUS TRIBROMIDE	8	–	II	–	1 L	E0	P001	–	IBC02	–
△ 1809	PHOSPHORUS TRICHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
△ 1810	PHOSPHORUS OXYCHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
1811	POTASSIUM HYDROGEN DIFLUORIDE, SOLID	8	6.1	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1812	POTASSIUM FLUORIDE, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1800
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1801
–	T7	TP2	F-H, S-Q	Category C	SGG1a SG16 SG36 SG49	Colourless liquid. Oxidant. Highly corrosive to most metals.	1802
–	T7	TP2	F-A, S-B	Category C SW15	SGG1 SG36 SG49	Yellow, oily liquid. Corrosive to most metals.	1803
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1804
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Miscible in water. Mildly corrosive to most metals.	1805
–	T3	TP33	F-A, S-B	Category C SW2	SGG1 SG6 SG8 SG10 SG12 SG36 SG49	Colourless, crystalline powder. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. In the presence of moisture, highly corrosive to most metals.	1806
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Crystalline powder, very deliquescent. Reacts violently with water and organic materials such as wood, cotton or straw, generating heat. In the presence of moisture, mildly corrosive to most metals.	1807
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen bromide, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1808
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1809
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes. Highly toxic if swallowed, by skin contact or by inhalation.	1810
–	T3	TP33	F-A, S-B	Category A SW1 SW2	SGG1 SG35 SG36 SG49	White crystalline solid. Decomposed by heat or acids, evolving hydrogen fluoride, a toxic, extremely irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1811
–	T1	TP33	F-A, S-A	Category A	SG35	White, deliquescent crystals or powder. Decomposed by acids, evolving hydrogen fluoride, an irritating and corrosive gas. Toxic if swallowed, by skin contact or by inhalation.	1812



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1813	POTASSIUM HYDROXIDE, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1814	POTASSIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1814	POTASSIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1815	PROPIONYL CHLORIDE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1816	PROPYLTRICHLOROSILANE	8	3	II	–	0	E0	P010	–	–	–
1817	PYROSULPHURYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
1818	SILICON TETRACHLORIDE	8	–	II	–	0	E0	P010	–	–	–
1819	SODIUM ALUMINATE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1819	SODIUM ALUMINATE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1823	SODIUM HYDROXIDE, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1824	SODIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1824	SODIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1825	SODIUM MONOXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1826	NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid	8	5.1	I	113	0	E0	P001	–	–	–
1826	NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid	8	–	II	113	1 L	E0	P001	–	IBC02	B20
1827	STANNIC CHLORIDE, ANHYDROUS	8	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	White pellets, flakes, lumps or solid blocks, deliquescent. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1813
–	T7	TP2	F-A, S-B	Category A	SGG18 SG35	Colourless liquid. Reacts with ammonium salts, evolving ammonia gas. Corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1814
–	T4	TP1	F-A, S-B	Category A	SGG18 SG35	See entry above.	1814
–	T7	TP1	F-E, S-C	Category B SW2	SGG1 SG36 SG49	Colourless liquid. Flashpoint: 12°C c.c. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas, apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1815
–	T10	TP2 TP7 TP13	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless, flammable liquid, with a pungent odour. Flashpoint: 38°C c.c. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1816
–	T8	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1817
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49 SG72	Colourless, extremely mobile liquid with a suffocating odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1818
–	T7	TP2	F-A, S-B	Category A	SGG18 SG35	Colourless liquid. Reacts with ammonium salts, evolving ammonia gas. Corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1819
–	T4	TP1	F-A, S-B	Category A	SGG18 SG35	See entry above.	1819
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	White pellets, flakes, lumps or solid blocks, deliquescent. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1823
–	T7	TP2	F-A, S-B	Category A	SGG18 SG35	Colourless liquid. Corrosive to aluminium, zinc and tin. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	1824
–	T4	TP1	F-A, S-B	Category A	SGG18 SG35	See entry above.	1824
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	Deliquescent crystalline solid. Reacts violently with water and acids, generating heat. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	1825
–	T10	TP2 TP13	F-A, S-Q	Category D SW2	SGG1a SG16 SG36 SG49	Usually a mixture of acids which has been used for nitration processes. Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes. Prohibited for shipment unless the mixture is (1) chemically stable; and (2) certified as containing no explosive impurities.	1826
–	T8	TP2	F-A, S-B	Category D SW2	SGG1a SG36 SG49	See entry above.	1826
–	T7	TP2	F-A, S-B	Category C	SGG1 SG36 SG49	Colourless liquid. In the presence of water, corrosive to most metals. Vapour irritates mucous membranes.	1827

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1828	SULPHUR CHLORIDES	8	–	I	–	0	E0	P602	–	–	–
1829	SULPHUR TRIOXIDE, STABILIZED	8	–	I	386	0	E0	P001	–	–	–
1830	SULPHURIC ACID with more than 51% acid	8	–	II	–	1 L	E2	P001	–	IBC02	B20
1831	SULPHURIC ACID, FUMING	8	6.1	I	–	0	E0	P602	–	–	–
1832	SULPHURIC ACID, SPENT	8	–	II	113	1 L	E0	P001	–	IBC02	B20
1833	SULPHUROUS ACID	8	–	II	–	1 L	E2	P001	–	IBC02	–
△ 1834	SULPHURYL CHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
1835	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1835	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1836	THIONYL CHLORIDE	8	–	I	–	0	E0	P802	–	–	–
1837	THIOPHOSPHORYL CHLORIDE	8	–	II	–	1 L	E0	P001	–	IBC02	–
△ 1838	TITANIUM TETRACHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
1839	TRICHLOROACETIC ACID, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1840	ZINC CHLORIDE SOLUTION	8	– P	III	223	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T20	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Red liquids with a suffocating odour. React violently with water, evolving hydrogen chloride and sulphur dioxide, irritating and corrosive gases. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1828
–	T20	TP4 TP13 TP25 TP26	F-A, S-B	Category C SW1 SW2	SGG1 SG36 SG49	Very deliquescent solid. Melting point may be as low as 17°C. Reacts violently with water, generating heat. May cause fire in contact with organic materials such as wood, cotton or straw. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1829
–	T8	TP2	F-A, S-B	Category C SW15	SGG1a SG36 SG49	Colourless, oily liquid, mixture over 1.41 up to 1.84 relative density. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1830
–	T20	TP2 TP13	F-A, S-B	Category C SW2 SW15	SGG1a SG36 SG49	Colourless, oily liquid, may be partly crystallized. Solution of varying quantities of sulphur trioxide in sulphuric acid. Reacts violently with water and organic material, generating heat. In the presence of moisture, highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin, eyes and mucous membranes.	1831
–	T8	TP2	F-A, S-B	Category C SW15	SGG1a SG36 SG49	Sulphuric acid, usually of high concentration, which has been used for chemical processes. Highly corrosive to most metals.	1832
–	T7	TP2	F-A, S-B	Category B SW2	SGG1 SG36 SG49	Solution of sulphur dioxide in water, with a suffocating odour. Corrosive to most metals. Vapour irritates mucous membranes.	1833
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Boiling point: 69°C. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes. Highly toxic if swallowed, by skin contact or by inhalation.	1834
–	T7	TP2	F-A, S-B	Category A	SGG2 SGG18 SG35	Miscible with water. Reacts violently with acids.	1835
–	T7	TP2	F-A, S-B	Category A	SGG2 SGG18 SG35	See entry above.	1835
–	T10	TP2 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Yellow or red liquid. Boiling point: 79°C. Reacts violently with water, evolving hydrogen chloride and sulphur dioxide, irritating and corrosive gases. In the presence of moisture, highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1836
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1837
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SGG7 SG36 SG49	Colourless liquid. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1838
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless, deliquescent crystals. Melting point of the pure substance: 58°C. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1839
–	T4	TP2	F-A, <u>S-B</u>	Category A	SGG1 SGG7 SG36 SG49	Colourless liquid. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1840

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1841	ACETALDEHYDE AMMONIA	9	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3 B6
1843	AMMONIUM DINITRO- <i>o</i> -CRESOLATE, SOLID	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1845	CARBON DIOXIDE, SOLID (DRY ICE)	9	–	–	–	0	E0	P003	PP18	–	–
1846	CARBON TETRACHLORIDE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
1847	POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1848	PROPIONIC ACID with not less than 10% and less than 90% acid, by mass	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1849	SODIUM SULPHIDE, HYDRATED with not less than 30% water	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
1851	MEDICINE, LIQUID, TOXIC, N.O.S.	6.1	–	II	221	100 mL	E4	P001	–	–	–
1851	MEDICINE, LIQUID, TOXIC, N.O.S.	6.1	–	III	221 223	5 L	E1	P001 LP01	–	–	–
1854	BARIUM ALLOYS, PYROPHORIC	4.2	–	I	–	0	E0	P404	PP31	–	–
1855	CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC	4.2	–	I	–	0	E0	P404	PP31	–	–
△ 1856	RAGS, OILY	4.2	–	–	29 123 973	0	E0	P003	PP19	IBC08	B3 B6
△ 1857	TEXTILE WASTE, WET	4.2	–	III	123	0	E1	P410	–	–	–
1858	HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1859	SILICON TETRAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
1860	VINYL FLUORIDE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
1862	ETHYL CROTONATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
1863	FUEL, AVIATION, TURBINE ENGINE	3	–	I	–	500 mL	E3	P001	–	–	–
1863	FUEL, AVIATION, TURBINE ENGINE	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-B	Category A	SG29	White crystalline solid. Soluble in water. When heated, decomposes into ammonia and acetaldehyde.	1841
–	T3	TP33	F-A, <u>S-A</u>	Category B	SGG2 SG15 SG16 SG30 SG63	May support combustion and burn without oxygen. When involved in a fire, evolves toxic fumes. Forms extremely sensitive explosive compounds with lead, silver or other heavy metals and their compounds. Toxic if swallowed, by skin contact or by inhalation.	1843
–	–	–	F-C, S-V	Category C SW2	–	Non-flammable gas in a white solid form. Slowly evolves vapours which are heavier than air (1.5). Inhalation of vapours may lead to unconsciousness. Can cause severe burns when in contact with the skin.	1845
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	SGG10	Colourless, volatile liquid with a heavy anaesthetic vapour. Non-flammable; when involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	1846
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	Crystalline solid. Melting point: 60°C. Reacts violently with acids, evolving hydrogen sulphide, a toxic and flammable gas. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1847
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Miscible with water. Corrosive to lead and most other metals. Burns skin. Vapours irritate mucous membranes.	1848
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	Yellow-pink or white deliquescent crystals, flakes or lumps. Melting point: 50°C. Soluble in water. Reacts violently with acids, evolving hydrogen sulphide, a toxic and flammable gas. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1849
–	–	–	F-A, S-A	Category C SW2	–	Toxic if swallowed, by skin contact or by inhalation.	1851
–	–	–	F-A, S-A	Category C SW2	–	See entry above.	1851
–	T21	TP7 TP33	F-G, S-M	Category D H1	SGG15 SG26	Liable to ignite spontaneously in air. If shaken, may produce sparks. In contact with water, evolve hydrogen, a flammable gas.	1854
–	–	–	F-G, S-M	Category D H1	SG26	Liable to ignite spontaneously in air. If shaken, may produce sparks. In contact with water, evolve hydrogen, a flammable gas.	1855
–	–	–	F-A, S-J	Category A	–	Liable to ignite spontaneously in air according to oil content.	1856
–	–	–	F-A, S-J	Category A	–	Liable to ignite spontaneously in air according to moisture content.	1857
–	T50	–	F-C, S-V	Category A	–	Non-flammable gas. Much heavier than air (5.2).	1858
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with a pungent odour. Corrosive to metals. In moist air, produces hydrogen fluoride. Much heavier than air (3.6). Highly irritating to skin, eyes and mucous membranes.	1859
–	–	–	F-D, S-U	Category E SW1 SW2	–	Flammable gas. Explosive limits: 2.9% to 29%. Heavier than air (1.6).	1860
–	T4	TP2	F-E, S-D	Category B	–	Colourless liquid with a pungent odour. Flashpoint: 2°C c.c. Immiscible with water.	1862
–	T11	TP1 TP8 TP28	F-E, S-E	Category E	–	Boiling range: –14°C upwards. Immiscible with water.	1863
–	T4	TP1 TP8	F-E, S-E	Category B	–	Immiscible with water.	1863

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1863	FUEL, AVIATION, TURBINE ENGINE	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1865	<i>n</i> -PROPYL NITRATE	3	–	II	26	1 L	E2	P001	–	–	–
1866	RESIN SOLUTION, flammable	3	–	I	–	500 mL	E3	P001	–	–	–
1866	RESIN SOLUTION, flammable	3	–	II	–	5 L	E2	P001	PP1	IBC02	–
1866	RESIN SOLUTION, flammable	3	–	III	223 955	5 L	E1	P001 LP01	PP1	IBC03	–
1868	DECABORANE	4.1	6.1	II	–	1 kg	E0	P002	PP31	IBC06	B21
1869	MAGNESIUM or MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons	4.1	–	III	59 920	5 kg	E1	P002 LP02	PP100 L3	IBC08	B4
1870	POTASSIUM BOROHYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
1871	TITANIUM HYDRIDE	4.1	–	II	–	1 kg	E2	P410	PP31 PP40	IBC04	–
1872	LEAD DIOXIDE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1873	PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass	5.1	8	I	900	0	E0	P502	PP28	–	–
1884	BARIUM OXIDE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1885	BENZIDINE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
1886	BENZYLIDENE CHLORIDE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
1887	BROMOCHLOROMETHANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1888	CHLOROFORM	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1889	CYANOGEN BROMIDE	6.1	8 P	I	–	0	E0	P002	PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-E	Category A	–	Immiscible with water.	1863
–	–	–	F-E, S-D	Category D	SG6 SG8 SG10 SG12	White to straw-coloured liquid with an ether-like odour. Flashpoint: 20°C c.c. Explosive limits: 2% to 100%. Immiscible with water. Oxidizing material. May explode on heating. Harmful if swallowed or by inhalation.	1865
–	T11	TP1 TP8 TP28	F-E, <u>S-E</u>	Category E	–	Miscibility with water depends upon the composition.	1866
–	T4	TP1 TP8	F-E, <u>S-E</u>	Category B	–	See entry above.	1866
–	T2	TP1	F-E, <u>S-E</u>	Category A	–	See entry above.	1866
–	T3	TP33	F-A, S-G	Category A	SG17	Colourless crystals. Slightly soluble in water. Vapours may form explosive mixture in air. Forms explosive and extremely sensitive mixtures with oxidizing substances. Toxic if swallowed, by skin contact or by dust inhalation.	1868
–	T1	TP33	F-G, S-G	Category A H1	SG17 SG25 SG26 SG32 SG35 SG36 SG52	Silvery white metal. Burns with an intense white light and heat. In contact with water, especially seawater, may evolve hydrogen, a flammable gas. Reacts readily with acids and caustic alkali, evolving hydrogen. Reacts readily with iron oxide, producing a thermite effect. Forms explosive mixtures with oxidizing substances.	1869
–	–	–	<u>F-G</u> , S-O	Category E H1	SG26 SG35	White, crystalline powder. In contact with water, acids or moisture evolves hydrogen, which may be ignited by the heat of the reaction.	1870
–	T3	TP33	F-A, S-G	Category E	–	Dark grey powder or crystals.	1871
–	T1	TP33	F-A, S-Q	Category A	SGG7 SGG9	Brown powder or crystals. Insoluble in water. Harmful if swallowed.	1872
–	T10	TP1	F-A, S-Q	Category D	SGG1a SG16 SG36 SG49	Colourless liquid. Mixtures with combustible material may ignite spontaneously and, when involved in a fire, by shock or by friction, may cause an explosion. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes. Transport of PERCHLORIC ACID with more than 72% acid, by mass, is prohibited.	1873
–	T1	TP33	F-A, S-A	Category A	–	White solid. Evolves heat in contact with water. Toxic if swallowed, by skin contact or by dust inhalation.	1884
–	T3	TP33	F-A, S-A	Category A	–	White, crystalline solid. Toxic if swallowed, by skin contact or by inhalation.	1885
–	T7	TP2	F-A, S-A	Category D SW2	–	Colourless liquid evolving vapour which is irritating to eyes and skin (“Tear Gas”). Toxic if swallowed, by skin contact or by inhalation.	1886
–	T4	TP1	F-A, S-A	Category A	SGG10	Clear, colourless, volatile liquid with a chloroform-like odour. Immiscible with water. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	1887
–	T7	TP2	F-A, S-A	Category A SW2	SGG10	Colourless, volatile liquid. Boiling point: 61°C. Non-flammable. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation. Anaesthetic.	1888
–	T6	TP33	F-A, <u>S-B</u>	Category D SW2	SGG6 SG35	Colourless crystals evolving toxic vapour which is irritating and causes tears. Melting point: approximately 52°C. Boiling point: approximately 62°C. In contact with water evolves hydrogen bromide and hydrogen cyanide, which are highly toxic, flammable and corrosive gases. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	1889



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1891	ETHYL BROMIDE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	B8
△ 1892	ETHYLDICHLOROARSINE	6.1	– P	I	354	0	E0	P602	–	–	–
1894	PHENYLMERCURIC HYDROXIDE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1895	PHENYLMERCURIC NITRATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
1897	TETRACHLOROETHYLENE	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
1898	ACETYL IODIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
1902	DIISOOCTYL ACID PHOSPHATE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
1905	SELENIC ACID	8	–	I	–	0	E0	P002	–	IBC07	B1
1906	SLUDGE ACID	8	–	II	–	1 L	E0	P001	–	IBC02	–
1907	SODA LIME with more than 4% sodium hydroxide	8	–	III	62	5 kg	E1	P002 LP02	–	IBC08	B3
1908	CHLORITE SOLUTION	8	–	II	274 352	1 L	E2	P001	–	IBC02	–
1908	CHLORITE SOLUTION	8	–	III	223 274 352	5 L	E1	P001 LP01	–	IBC03	–
1910	CALCIUM OXIDE	8	–	–	960	–	–	–	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T7	TP2 TP13	F-A, S-A	Category B SW2 SW5	SGG10	Colourless volatile liquid evolving irritating vapour with a narcotic effect. Boiling point: 38°C. Vapour can be ignited by an electric spark or similar sources of ignition. Toxic if swallowed, by skin contact or by inhalation.	1891
–	T20	TP2 TP13	F-A, <u>S-A</u>	Category D SW2	–	Colourless liquid evolving irritating vapour (“Tear Gas”). Highly toxic if swallowed, by skin contact or by inhalation.	1892
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	1894
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	White crystals or powder. Toxic if swallowed, by skin contact or by inhalation.	1895
–	T4	TP1	F-A, <u>S-A</u>	Category A SW2	SGG10	Colourless liquid with an ethereal odour. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	1897
–	T7	TP2 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid. Reacts violently with water, evolving hydrogen iodide, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	1898
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Oily liquid. Mildly corrosive to most metals.	1902
–	–	–	F-A, S-B	Category B	–	A wide variety of corrosive liquids. Cause burns to skin, eyes and mucous membranes.	1903
–	–	–	F-A, S-B	Category B	–	See entry above.	1903
–	–	–	F-A, S-B	Category A	–	See entry above.	1903
–	T6	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White, very deliquescent crystalline solid. Melting point: 50°C. Soluble in water. Reacts violently with organic materials such as wood, cotton or straw. In the presence of moisture, corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	1905
–	T8	TP2 TP28	F-A, S-B	Category C SW15	SGG1a SG36 SG49	Waste or spent sulphuric acid, usually a by-product of refining petroleum oils or crude benzenes. Highly corrosive to most metals.	1906
–	T1	TP33	F-A, S-B	Category A	SGG18 SG35	Deliquescent, granulated mixture of sodium hydroxide and calcium hydroxide. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	1907
–	T7	TP2 TP24	F-A, S-B	Category B	SGG5 SG6 SG8 SG10 SG12 SG20	Colourless liquid. In contact with acids, evolves very irritating and corrosive gases. Oxidizing solution. May cause fire in contact with organic materials such as wood, cotton or straw. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1908
–	T4	TP2 TP24	F-A, S-B	Category B	SGG5 SG6 SG8 SG10 SG12 SG20	See entry above.	1908
–	–	–	–	–	–	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.	1910

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1911	DIBORANE	2.3	2.1	–	–	0	E0	P200	–	–	–
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	2.1	–	–	228	0	E0	P200	–	–	–
1913	NEON, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
1914	BUTYL PROPIONATES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1915	CYCLOHEXANONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1916	2,2'-DICHLORODIETHYL ETHER	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–
1917	ETHYL ACRYLATE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
1918	ISOPROPYLBENZENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1919	METHYL ACRYLATE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
1920	NONANES	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
1921	PROPYLENEIMINE, STABILIZED	3	6.1	I	386	0	E0	P001	–	–	–
1922	PYRROLIDINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
1923	CALCIUM DITHIONITE (CALCIUM HYDROSULPHITE)	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
1928	METHYLMAGNESIUM BROMIDE IN ETHYL ETHER	4.3	3	I	–	0	E0	P402	–	–	–
1929	POTASSIUM DITHIONITE (POTASSIUM HYDROSULPHITE)	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
1931	ZINC DITHIONITE (ZINC HYDROSULPHITE)	9	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
1932	ZIRCONIUM SCRAP	4.2	–	III	223	0	E0	P002 LP02	PP31 L4	IBC08	B4
1935	CYANIDE SOLUTION, N.O.S.	6.1	– P	I	274	0	E5	P001	–	–	–
1935	CYANIDE SOLUTION, N.O.S.	6.1	– P	II	274	100 mL	E4	P001	–	IBC02	–
1935	CYANIDE SOLUTION, N.O.S.	6.1	– P	III	223 274	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-D, S-U	Category D SW2	SG46	Liquefied, flammable, toxic, colourless gas with an unpleasant odour. Explosive limits: 0.9% to 98%. Lighter than air (0.95). May decompose above –18°C with the formation of hydrogen and boron hydrides. Autoignition temperature: 90°C. Toxic by inhalation; forms boric acid and water by hydrolysis within the lungs.	1911
–	T50	–	F-D, S-U	Category D SW2	–	Solution of the flammable gas methyl chloride, UN No. 1063, in the liquid methylene chloride.	1912
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, inert gas. Lighter than air (0.7).	1913
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Flashpoint: 32°C c.c. Immiscible with water.	1914
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 38°C to 44°C c.c. Explosive limits: 1.1% to 9.4%. Immiscible with water.	1915
–	T7	TP2	F-E, S-D	Category A	–	Colourless flammable liquid. Flashpoint: 55°C c.c. Immiscible with water, but reacts with it, forming corrosive and toxic fumes. Toxic if swallowed, by skin contact or by inhalation.	1916
–	T4	TP1 TP13	F-E, S-D	Category C SW1 SW2	–	Colourless liquid with a pungent odour. Flashpoint: 16°C c.c. Explosive limits: 1.8% to 14%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	1917
–	T2	TP1	F-E, S-E	Category A	–	Colourless liquid with a chloroform-like odour. Flashpoint: 31°C c.c. Explosive limits: 0.9% to 6.5%. Immiscible with water.	1918
–	T4	TP1 TP13	F-E, S-D	Category C SW1	–	Colourless, volatile liquid with a pungent odour. Flashpoint: –3°C c.c. Explosive limits: 1.2% to 25%. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	1919
–	T2	TP2	F-E, S-E	Category A	–	Colourless liquids. Explosive limits: 0.8% to 2.9%. <i>normal</i> -NONANE: flashpoint 31°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	1920
–	T14	TP2 TP13	F-E, S-D	Category D SW1 SW2	–	Colourless liquid with an ammoniacal odour. Flashpoint: –4°C o.c. Miscible with water. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin and eyes.	1921
–	T7	TP1	F-E, S-C	Category B SW2	SGG18 SG35	Colourless to pale yellow liquid with an ammoniacal odour. Reacts violently with acids. Flashpoint: 3°C c.c. Miscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	1922
–	T3	TP33	F-A, S-J	Category E H1	–	Liable to heat and ignite spontaneously in air and to evolve sulphur dioxide, an irritating gas.	1923
–	–	–	<u>F-G</u> , S-L	Category D H1	SG26	Colourless, yellowish liquid. Decomposes violently in contact with water. Spillage will ignite spontaneously.	1928
–	T3	TP33	F-A, S-J	Category E H1	–	Liable to heat and ignite spontaneously in air and to evolve sulphur dioxide, an irritating gas.	1929
–	T1	TP33	F-A, S-J	Category A H1	SGG7 SG11 SG20	White, amorphous solid material. Soluble in water. Liable to heat on contact with moisture and heating results in evolution of sulphur dioxide, an intensely irritating gas. Also evolves sulphur dioxide on contact with acids.	1931
–	T1	TP33	F-G, S-L	Category D H1	SG26	Particle size larger than 840 microns. Readily flammable; may ignite spontaneously in air. In contact with water, may evolve hydrogen, a flammable gas.	1932
–	T14	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B SW2	SGG6 SG35	Liquid evolving toxic vapour. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	1935
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category A SW2	SGG6 SG35	See entry above.	1935
–	T7	TP2 TP13 TP28	F-A, <u>S-A</u>	Category A SW2	SGG6 SG35	See entry above.	1935



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1938	BROMOACETIC ACID SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
1938	BROMOACETIC ACID SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
1939	PHOSPHORUS OXYBROMIDE	8	–	II	–	1 kg	E0	P002	–	IBC08	B4 B21
1940	THIOGLYCOLIC ACID	8	–	II	–	1 L	E2	P001	–	IBC02	–
1941	DIBROMODIFLUOROMETHANE	9	–	III	–	5 L	E1	P001 LP01	–	–	–
1942	AMMONIUM NITRATE with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	5.1	–	III	900 952 967	5 kg	E1	P002 LP02	–	IBC08	B3
1944	MATCHES, SAFETY (book, card or strike on box)	4.1	–	III	293 294	5 kg	E1	P407	–	–	–
1945	MATCHES, WAX 'VESTA'	4.1	–	III	293 294	5 kg	E1	P407	–	–	–
1950	AEROSOLS	2	– See SP63	–	63 190 277 327 344 381 959	See SP277	E0	P207 LP200	PP87 L2	–	–
1951	ARGON, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
△ 1952	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide	2.2	–	–	392	120 mL	E1	P200	–	–	–
1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.	2.3	2.1	–	274	0	E0	P200	–	–	–
1954	COMPRESSED GAS, FLAMMABLE, N.O.S.	2.1	–	–	274 392	0	E0	P200	–	–	–
1955	COMPRESSED GAS, TOXIC, N.O.S.	2.3	–	–	274	0	E0	P200	–	–	–
△ 1956	COMPRESSED GAS, N.O.S.	2.2	–	–	274 378 392	120 mL	E1	P200	–	–	–
1957	DEUTERIUM, COMPRESSED	2.1	–	–	–	0	E0	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Corrosive to most metals. Harmful if swallowed. Causes burns to eyes and skin.	1938
–	T7	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	See entry above.	1938
–	T3	TP33	F-A, S-B	Category C SW1 SW2 H2	SGG1 SG36 SG49	Colourless crystals. Melting point: 56°C. Reacts violently with water, evolving hydrogen bromide, a toxic and corrosive gas apparent as white fumes. Reacts violently with organic materials (such as wood, cotton, straw), causing fire. Decomposes when heated, evolving toxic and corrosive gases. When involved in a fire, evolves toxic and corrosive gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	1939
–	T7	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid with a strong, very unpleasant odour. Corrosive to most metals. Harmful if swallowed.	1940
–	T11	TP2	F-A, S-A	Category A SW1	–	Colourless, heavy liquid. Boiling point: 24°C. Immiscible with water. When involved in a fire, may evolve toxic fumes. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	1941
–	T1 BK2 BK3	TP33	F-H, S-Q	Category C SW1 SW14 SW23	SGG2 SG16 SG42 SG45 SG47 SG48 SG51 SG56 SG58 SG59 SG61	Crystals, granules or prills. Soluble in water. Supporter of combustion. A major fire aboard a ship carrying this substance may involve a risk of explosion in the event of contamination (e.g. by fuel oil) or strong confinement. An adjacent detonation may also involve the risk of explosion. If heated strongly, decomposes, giving off toxic gases and gases which support combustion. Transport of AMMONIUM NITRATE liable to self-heating sufficient to initiate decomposition is <b>prohibited</b> .	1942
–	–	–	F-A, S-I	Category A	–	Intended to be ignited on a specially prepared surface.	1944
–	–	–	F-A, S-I	Category B	–	Ignite by friction; a prepared surface may be required.	1945
–	–	–	F-D, S-U	– SW1 SW22	SG69	–	1950
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, inert gas. Heavier than air (1.4).	1951
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with an ether-like odour. Explosive limits: 31% to 52%. Heavier than air (1.5).	1952
–	–	–	F-D, S-U	Category D SW2	–	–	1953
–	–	–	F-D, S-U	Category D SW2	–	–	1954
–	–	–	F-C, S-U	Category D SW2	–	–	1955
–	–	–	F-C, S-V	Category A	–	–	1956
–	–	–	F-D, S-U	Category E SW2	–	Flammable, odourless gas. Much lighter than air (0.14).	1957

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1958	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1959	1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)	2.1	–	–	–	0	E0	P200	–	–	–
1961	ETHANE, REFRIGERATED LIQUID	2.1	–	–	–	0	E0	P203	–	–	–
1962	ETHYLENE	2.1	–	–	–	0	E0	P200	–	–	–
1963	HELIUM, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.	2.1	–	–	274	0	E0	P200	–	–	–
1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	2.1	–	–	274 392	0	E0	P200	–	–	–
1966	HYDROGEN, REFRIGERATED LIQUID	2.1	–	–	–	0	E0	P203	–	–	–
1967	INSECTICIDE GAS, TOXIC, N.O.S.	2.3	–	–	274	0	E0	P200	–	–	–
1968	INSECTICIDE GAS, N.O.S.	2.2	–	–	274	120 mL	E1	P200	–	–	–
1969	ISOBUTANE	2.1	–	–	392	0	E0	P200	–	–	–
1970	KRYPTON, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
1971	METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content	2.1	–	–	392 974	0	E0	P200	–	–	–
1972	METHANE, REFRIGERATED LIQUID or NATURAL GAS, REFRIGERATED LIQUID with high methane content	2.1	–	–	–	0	E0	P203	–	–	–
1973	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUORO-ETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1974	CHLORODIFLUOROBROMO-METHANE (REFRIGERANT GAS R 12B1)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1975	NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)	2.3	5.1/8	–	–	0	E0	P200	–	–	–
1976	OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC 318)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1977	NITROGEN, REFRIGERATED LIQUID	2.2	–	–	345 346	120 mL	E1	P203	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with a chloroform-like odour. Much heavier than air (5.9). Boiling point: 4°C.	1958
–	–	–	F-D, S-U	Category E SW2	–	Flammable gas. Explosive limits: 2.3% to 25%. Much heavier than air (2.2).	1959
–	T75	TP5	F-D, S-U	Category D SW2	–	Liquefied, flammable gas with a faint odour. Explosive limits: 3% to 16%. Slightly heavier than air (1.05).	1961
–	–	–	F-D, S-U	Category E SW2	–	Flammable gas. Explosive limits: 3% to 34%. Slightly lighter than air (0.98).	1962
–	T75	TP5 TP34	F-C, S-V	Category D	–	Liquefied, inert gas. Much lighter than air (0.14).	1963
–	–	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas mixture obtained from natural gas or by distillation of mineral oils or coal, etc. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air.	1964
–	T50	–	<u>F-D</u> , S-U	Category E SW2	–	Liquefied flammable hydrocarbon gas obtained from natural gas or by distillation of mineral oils or coal, etc. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air.	1965
–	T75	TP5 TP34	<u>F-D</u> , S-U	Category D SW2	SG46	Liquefied, flammable, odourless gas. Explosive limits: 4% to 75%. Much lighter than air (0.07).	1966
–	–	–	F-C, S-U	Category D SW2	–	Toxic mixtures of insecticides with liquefied gases. These mixtures may be flammable.	1967
–	–	–	F-C, S-V	Category A	–	Non-flammable and non-toxic mixtures of insecticides with liquefied gases.	1968
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon. Heavier than air.	1969
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, inert gas. Much heavier than air (2.9).	1970
–	–	–	F-D, S-U	Category E SW2	–	Flammable gas. Explosive limits: 5% to 16%. Lighter than air (methane 0.55).	1971
–	T75	TP5	<u>F-D</u> , S-U	Category D SW2	–	Liquefied, flammable gas. Explosive limits: 5% to 16%. Lighter than air (methane 0.55).	1972
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (4.2.)	1973
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (5.7).	1974
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive, brown gas mixtures of varying composition with a pungent odour. Strong oxidizing agent. Heavier than air. Highly irritating to skin, eyes and mucous membranes. Toxic by inhalation, with delayed effect similar to phosgene.	1975
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (7.0).	1976
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, non-flammable, odourless gas. Lighter than air (0.97). Arrangements for the containment of the liquid nitrogen and fittings in use should be appropriate to the potential danger to the structure of the freight container or ship from the effect of misuse or accidental spillage.	1977

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1978	PROPANE	2.1	–	–	392	0	E0	P200	–	–	–
1982	TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1983	1-CHLORO-2,2,2-TRIFLUORO-ETHANE (REFRIGERANT GAS R 133a)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1984	TRIFLUOROMETHANE (REFRIGERANT GAS R 23)	2.2	–	–	–	120 mL	E1	P200	–	–	–
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	6.1	I	274	0	E0	P001	–	–	–
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	274	1 L	E2	P001	–	IBC02	–
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	6.1	III	223 274	5 L	E1	P001	–	IBC03	–
1987	ALCOHOLS, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
1987	ALCOHOLS, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	6.1	I	274	0	E0	P001	–	–	–
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	274	1 L	E2	P001	–	IBC02	–
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	6.1	III	223 274	5 L	E1	P001	–	IBC03	–
1989	ALDEHYDES, N.O.S.	3	–	I	274	0	E3	P001	–	–	–
1989	ALDEHYDES, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
1989	ALDEHYDES, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
1990	BENZALDEHYDE	9	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
1991	CHLOROPRENE, STABILIZED	3	6.1	I	386	0	E0	P001	–	–	–
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	6.1	I	274	0	E0	P001	–	–	–
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	6.1	II	274	1 L	E2	P001	–	IBC02	–
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	6.1	III	223 274	5 L	E1	P001	–	IBC03	–
1993	FLAMMABLE LIQUID, N.O.S.	3	–	I	274	0	E3	P001	–	–	–
1993	FLAMMABLE LIQUID, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
1993	FLAMMABLE LIQUID, N.O.S.	3	–	III	223 274 955	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T50	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 2.3% to 9.5%. Heavier than air (1.56).	1978
–	–	–	F-C, S-V	Category A	–	Non-flammable gas. Much heavier than air (3.1).	1982
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (4.1). Boiling point: 7°C.	1983
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air (2.4).	1984
–	T14	TP2 TP13 TP27	F-E, S-D	Category E SW2	–	Toxic if swallowed, by skin contact or by inhalation.	1986
–	T11	TP2 TP27	F-E, S-D	Category B SW2	–	See entry above.	1986
–	T7	TP1 TP28	F-E, S-D	Category A	–	See entry above.	1986
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	–	1987
–	T4	TP1 TP29	F-E, S-D	Category A	–	–	1987
–	T14	TP2 TP13 TP27	F-E, S-D	Category E SW2	–	Toxic if swallowed, by skin contact or by inhalation.	1988
–	T11	TP2 TP27	F-E, S-D	Category B SW2	–	See entry above.	1988
–	T7	TP1 TP28	F-E, S-D	Category A	–	See entry above.	1988
–	T11	TP1 TP27	F-E, S-D	Category E	–	–	1989
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	–	1989
–	T4	TP1 TP29	F-E, S-D	Category A	–	–	1989
–	T2	TP1	F-A, S-A	Category A	–	Colourless or yellowish volatile oil with a bitter almond odour. Slightly soluble in water. Irritating to skin, eyes and mucous membranes.	1990
–	T14	TP2 TP6 TP13	F-E, S-D	Category D SW1 SW2	SGG10	Colourless liquid. Flashpoint: –20°C c.c. Explosive limits: 2.5% to 12%. Slightly soluble in water. Toxic if swallowed, by skin contact or by inhalation.	1991
–	T14	TP2 TP13 TP27	F-E, S-D	Category E SW2	–	Flammable toxic liquid which is not specified by name in this class or, on account of its characteristics, in some other class. Toxic if swallowed, by skin contact or by inhalation.	1992
–	T7	TP2 TP13	F-E, S-D	Category B SW2	–	See entry above.	1992
–	T7	TP1 TP28	F-E, S-D	Category A	–	See entry above.	1992
–	T11	TP1 TP27	F-E, <u>S-E</u>	Category E	–	–	1993
–	T7	TP1 TP8 TP28	F-E, <u>S-E</u>	Category B	–	–	1993
–	T4	TP1 TP29	F-E, <u>S-E</u>	Category A	–	–	1993

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
1994	IRON PENTACARBONYL	6.1	3	I	354	0	E0	P601	–	–	–
1999	TARS, LIQUID, including road oils, and cutback bitumens	3	–	II	–	5 L	E2	P001	–	IBC02	–
1999	TARS, LIQUID, including road oils, and cutback bitumens	3	–	III	955	5 L	E1	P001 LP01	–	IBC03	–
2000	CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap	4.1	–	III	223 383	5 kg	E1	P002 LP02	PP7	–	–
2001	COBALT NAPHTHENATES, POWDER	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2002	CELLULOID, SCRAP	4.2	–	III	223	0	E0	P002 LP02	PP8	IBC08	B3
2004	MAGNESIUM DIAMIDE	4.2	–	II	–	0	E2	P410	PP31	IBC06	–
2006	PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.	4.2	–	III	274	0	E0	P002	–	–	–
2008	ZIRCONIUM POWDER, DRY	4.2	–	I	–	0	E0	P404	PP31	–	–
2008	ZIRCONIUM POWDER, DRY	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
2008	ZIRCONIUM POWDER, DRY	4.2	–	III	223	0	E1	P002 LP02	PP31 L4	IBC08	B4
2009	ZIRCONIUM, DRY, finished sheets, strip or coiled wire	4.2	–	III	223	0	E1	P002 LP02	PP31 L4	–	–
2010	MAGNESIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
2011	MAGNESIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
2012	POTASSIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
2013	STRONTIUM PHOSPHIDE	4.3	6.1	I	–	0	E0	P403	PP31	–	–
2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)	5.1	8	II	–	1 L	E2	P504	PP10	IBC02	B5
2015	HYDROGEN PEROXIDE, STABILIZED or HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide	5.1	8	I	–	0	E0	P501	–	–	–
2016	AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	–	–	–	0	E0	P600	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T22	TP2 TP13	F-E, S-D	Category D SW2	–	Yellow to dark red, volatile flammable liquid. Flashpoint: –15°C c.c. Explosive limits: 3.7% to 12.5%. May react with water or steam, evolving carbon monoxide, which is a toxic gas. Highly toxic if swallowed, by skin contact or by inhalation.	1994
–	T3	TP3 TP29	F-E, S-E	Category B	–	Mobile liquids prepared by mixing asphalt with petroleum distillate. Pungent odour. Immiscible with water.	1999
–	T1	TP3	F-E, S-E	Category A	–	See entry above.	1999
–	–	–	F-A, S-I	Category A	–	Ignites readily. When involved in a fire, evolves toxic fumes; in enclosed cargo spaces, these fumes may form an explosive mixture with air.	2000
–	T1	TP33	F-A, S-I	Category A	–	Brown, amorphous powder. Insoluble in water. Readily combustible.	2001
–	–	–	F-A, S-J	Category D	–	Ignites readily. When involved in a fire, evolves toxic fumes; in enclosed cargo spaces, these fumes may form an explosive mixture with air.	2002
–	T3	TP33	F-G, S-M	Category C H1	SG26	White powder. Ignites spontaneously in air. Reacts violently in contact with water.	2004
–	–	–	F-A, S-G	Category C	–	–	2006
–	T21	TP7 TP33	F-G, S-M	Category D H1	SGG15 SG26	Amorphous powder. Liable to ignite spontaneously in air. Forms explosive mixtures with oxidizing substances.	2008
–	T3	TP33	F-G, S-M	Category D H1	SGG15 SG26	See entry above.	2008
–	T1	TP33	F-G, S-M	Category D H1	SGG15 SG26	See entry above.	2008
–	–	–	F-G, S-M	Category D H1	SGG15 SG26	Hard, silvery metal, liable to ignite spontaneously in air.	2009
–	–	–	<u>F-G</u> , S-O	Category E H1	SG26 SG35	White crystals. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	2010
–	–	–	<u>F-G</u> , S-N	Category E SW2 SW5 H1	SG26 SG35	Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2011
–	–	–	<u>F-G</u> , S-N	Category E SW2 SW5 H1	SG26 SG35	Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2012
–	–	–	<u>F-G</u> , S-N	Category E SW2 SW5 H1	SG26 SG35	Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2013
–	T7	TP2 TP6 TP24	F-H, S-Q	Category D SW1	SGG16 SG16 SG59 SG72	Colourless liquid. Slowly decomposes, evolving oxygen; the rate of decomposition increases in contact with metals, except aluminium. In contact with combustible material, may cause fire or explosion. Causes burns to skin, eyes and mucous membranes. Even though stabilized, these solutions may evolve oxygen.	2014
–	T9	TP2 TP6 TP24	F-H, S-Q	Category D SW1	SGG16 SG16 SG59	Colourless liquid. Slowly decomposes, evolving oxygen; the rate of decomposition increases in contact with metals, except aluminium. Decomposes vigorously in contact with permanganates. When involved in a fire, mixtures with combustible material may be explosive. Causes burns to skin, eyes and mucous membranes. Even though stabilized, these solutions may evolve oxygen.	2015
–	–	–	F-A, S-A	Category E SW2 H1	–	Contents may evolve toxic fumes or vapour. Gases evolved are toxic by skin contact or by inhalation.	2016



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2017	AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	8	–	–	0	E0	P600	–	–	–
2018	CHLOROANILINES, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2019	CHLOROANILINES, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2020	CHLOROPHENOLS, SOLID	6.1	–	III	205	5 kg	E1	P002 LP02	–	IBC08	B3
2021	CHLOROPHENOLS, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2022	CRESYLIC ACID	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2023	EPOCHLOROHYDRIN	6.1	3 P	II	279	100 mL	E4	P001	–	IBC02	–
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	– P	I	43 66 274	0	E5	P001	–	–	–
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	– P	II	43 66 274	100 mL	E4	P001	–	IBC02	–
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	– P	III	43 66 223 274	5 L	E1	P001 LP01	–	IBC03	–
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	– P	I	43 66 274	0	E5	P002	–	IBC07	B1
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	– P	II	43 66 274	500 g	E4	P002	–	IBC08	B4 B21
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	– P	III	43 66 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	– P	I	43 274	0	E5	P002	–	IBC07	B1
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	– P	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	– P	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2027	SODIUM ARSENITE, SOLID	6.1	–	II	43	500 g	E4	P002	–	IBC08	B4 B21
2028	BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device	8	–	II	–	0	E0	P803	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-B	Category E SW2 H1	–	Contents may evolve irritant gas or vapour with lachrymatory effects.	2017
–	T3	TP33	F-A, S-A	Category A	–	Crystalline solid. Melting point of pure <i>para</i> -chloroaniline: 70°C approximately. Toxic if swallowed, by skin contact or by dust inhalation.	2018
–	T7	TP2	F-A, S-A	Category A	SG35	Colourless liquid. May be a mixture of two of the isomers (e.g. <i>ortho</i> - and <i>meta</i> -) of chloroaniline. Reacts with acids. Toxic if swallowed, by skin contact or by inhalation.	2019
–	T1	TP33	F-A, S-A	Category A	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by dust inhalation.	2020
–	T4	TP1	F-A, S-A	Category A	–	A wide range of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	2021
–	T7	TP2 TP13	F-A, S-B	Category B	–	Colourless to brownish-yellow liquid mixture with a phenolic odour. Miscible with water. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes. “Cresylic acid” is a generic name for mixtures of cresols and higher alkylphenols, in varying proportions. It generally contains more than 95% phenolic compounds.	2022
–	T7	TP2 TP13	F-E, <u>S-D</u>	Category A SW2	–	Colourless flammable liquid with a chloroform-like odour. Flashpoint: approximately 32°C c.c. Toxic if swallowed, by skin contact or by inhalation.	2023
–	–	–	F-A, <u>S-A</u>	Category B SW2	SGG7 SGG11	Toxic if swallowed, by skin contact or by inhalation.	2024
–	–	–	F-A, <u>S-A</u>	Category B SW2	SGG7 SGG11	See entry above.	2024
–	–	–	F-A, <u>S-A</u>	Category B SW2	SGG7 SGG11	See entry above.	2024
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Toxic if swallowed, by skin contact or by dust inhalation.	2025
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	See entry above.	2025
–	T1	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	See entry above.	2025
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	Usually white crystals or powder. Toxic if swallowed, by skin contact or by dust inhalation.	2026
–	T3	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	See entry above.	2026
–	T1	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG11	See entry above.	2026
–	T3	TP33	F-A, S-A	Category A	–	Greyish-white powder. Soluble in water. Reacts with oxidizing substances, evolving heat. Toxic if swallowed, by skin contact or by dust inhalation.	2027
–	–	–	F-A, S-B	Category E SW2	–	Corrosive content evolves dense smoke when in contact with air. Corrosive content may cause acid burns to skin.	2028

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2029	HYDRAZINE, ANHYDROUS	8	3/6.1	I	–	0	E0	P001	–	–	–
2030	HYDRAZINE, AQUEOUS SOLUTION with more than 37% hydrazine, by mass	8	6.1	I	–	0	E0	P001	–	–	–
2030	HYDRAZINE, AQUEOUS SOLUTION with more than 37% hydrazine, by mass	8	6.1	II	–	1 L	E0	P001	–	IBC02	–
2030	HYDRAZINE, AQUEOUS SOLUTION with more than 37% hydrazine, by mass	8	6.1	III	–	5 L	E1	P001 LP01	–	IBC03	–
2031	NITRIC ACID other than red fuming, with more than 70% nitric acid	8	5.1	I	–	0	E0	P001	PP81	–	–
2031	NITRIC ACID other than red fuming, with at least 65% but with not more than 70% nitric acid	8	5.1	II	–	1 L	E2	P001	PP81	IBC02	B15 B20
2031	NITRIC ACID other than red fuming, with less than 65% nitric acid	8	–	II	–	1 L	E2	P001	PP81	IBC02	B15 B20
2032	NITRIC ACID, RED FUMING	8	5.1/6.1	I	–	0	E0	P602	–	–	–
2033	POTASSIUM MONOXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2034	HYDROGEN AND METHANE MIXTURE, COMPRESSED	2.1	–	–	–	0	E0	P200	–	–	–
2035	1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)	2.1	–	–	–	0	E0	P200	–	–	–
△ 2036	XENON	2.2	–	–	378 392	120 mL	E1	P200	–	–	–
△ 2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	–	–	191 277 303 327 344 959	see SP277	E0	P003 LP200	PP96 L2 PP17	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-E, <u>S-C</u>	Category D SW2	SGG18 SG5 SG8 SG35	Colourless, flammable liquid with an ammoniacal odour. Reacts violently with acids. Flashpoint: 52°C c.c. Miscible with water. Highly reactive reducing agent. Ignites spontaneously when in contact with porous materials such as earth, wood or cloth. Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin, eyes and mucous membranes.	2029
–	T10	TP2 TP13	F-A, S-B	Category D SW2	SGG18 SG35	Colourless liquid. Powerful reducing agent, burns readily. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	2030
–	T7	TP2 TP13	F-A, S-B	Category D SW2	SGG18 SG35	See entry above.	2030
–	T4	TP1	F-A, S-B	Category D SW2	SGG18 SG35	See entry above.	2030
	T10	TP2 TP13	F-A, S-Q	Category D	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	Colourless liquid. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, evolving highly toxic gases (brown fumes). Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	2031
–	T8	TP2	F-A, S-Q	Category D	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	Colourless liquid. Oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, evolving highly toxic gases (brown fumes). Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	2031
–	T8	TP2	F-A, S-B	Category D	SGG1a SG36 SG49	See entry above.	2031
–	T20	TP2 TP13	F-A, S-Q	Category D SW2	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	Brown liquid. Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. Highly corrosive to most metals. Toxic if swallowed, by skin contact or by vapour inhalation. Causes severe burns to skin, eyes and mucous membranes.	2032
–	T3	TP33	F-A, S-B	Category A	SGG18 SG22 SG35	Deliquescent crystalline solid. Reacts violently with water, generating heat. Reacts with ammonium salts, evolving ammonia gas. Reacts violently with acids. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2033
–	–	–	F-D, S-U	Category E SW2	SG46	Flammable, odourless gas mixtures. Much lighter than air.	2034
–	T50	–	F-D, S-U	Category B SW2	–	Flammable gas with a slight odour. Much heavier than air (2.9).	2035
–	–	–	F-C, S-V	Category A	–	Liquefied, inert gas. Much heavier than air (4.5).	2036
–	–	–	F-D, S-U	Category B SW2 SW22	–	Normally contain mixtures of liquefied butane and propane in various proportions for use in camping stoves, etc.	2037



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2038	DINITROTOLUENES, LIQUID	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	B20
2044	2,2-DIMETHYLPROPANE	2.1	–	–	–	0	E0	P200	–	–	–
2045	ISOBUTYL ALDEHYDE (ISOBUTYRALDEHYDE)	3	–	II	–	1 L	E2	P001	–	IBC02	–
2046	CYMENES	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2047	DICHLOROPROPENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2047	DICHLOROPROPENES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2048	DICYCLOPENTADIENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2049	DIETHYLBENZENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2050	DIISOBUTYLENES, ISOMERIC COMPOUNDS	3	–	II	–	1 L	E2	P001	–	IBC02	–
2051	2-DIMETHYLAMINOETHANOL	8	3	II	–	1 L	E2	P001	–	IBC02	–
2052	DIPENTENE	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2053	METHYL ISOBUTYL CARBINOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2054	MORPHOLINE	8	3	I	–	0	E0	P001	–	–	–
2055	STYRENE MONOMER, STABILIZED	3	–	III	386	5 L	E1	P001	–	IBC03	–
2056	TETRAHYDROFURAN	3	–	II	–	1 L	E2	P001	–	IBC02	–
2057	TRIPROPYLENE	3	– P	II	–	1 L	E2	P001	–	IBC02	–
2057	TRIPROPYLENE	3	– P	III	223	5 L	E1	P001 LP01	–	IBC03	–
2058	VALERALDEHYDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	–	I	198	0	E0	P001	–	–	–
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	–	II	198	1 L	E0	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2	F-A, <u>S-A</u>	Category A	–	Immiscible with water. A commercial grade consisting of a mixture of the 2,4-, 3,4- and 3,5-isomers is an oily liquid. Toxic if swallowed, by skin contact or by inhalation.	2038
–	–	–	F-D, S-U	Category E SW2	–	Flammable hydrocarbon gas. Explosive limits: 1.4% to 7.2%. Heavier than air (2.48).	2044
–	T4	TP1	F-E, S-D	Category E SW2	–	Colourless liquid with a characteristic pungent odour. Flashpoint: –24°C c.c. Explosive limits: 1% to 12%. Immiscible with water.	2045
–	T2	TP1	F-E, <u>S-D</u>	Category A	–	Colourless liquids with an aromatic odour. Immiscible with water. Explosive limits: 0.7% to 5.6%.	2046
–	T4	TP1	F-E, S-D	Category B	–	Colourless or yellow liquids with a sweet odour. Explosive limits: 5% to 14%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2047
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	2047
–	T2	TP1	F-E, S-D	Category A	–	The pure substance is a solid with a melting point of 34°C. Flashpoint: 26°C to 38°C o.c. Commercial products are liquids. Immiscible with water. Harmful if swallowed.	2048
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Flashpoint: 49°C to 56°C c.c. Immiscible with water. The commercial product is a mixture of isomers.	2049
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. Flashpoint: –18°C to 21°C c.c. Explosive limits: 0.8% to 4.8%. Immiscible with water.	2050
–	T7	TP2	F-E, S-C	Category A	SG35	Colourless, flammable liquid with a fishy odour. Flashpoint: 31°C o.c. Miscible with water. Causes burns to skin, eyes and mucous membranes.	2051
–	T2	TP1	F-E, S-E	Category A	–	Colourless liquid with a lemon-like odour. Flashpoint: 43°C c.c. Explosive limits: 0.7% to 6.1%. Immiscible with water.	2052
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 41°C c.c. Explosive limits: 1% to 5.5%. Miscible with water. Harmful by inhalation.	2053
–	T10	TP2	F-E, S-C	Category A	–	Colourless liquid with a fishy odour. Flashpoint: 38°C o.c. Explosive limits: 2% to 11.2%. Miscible with water. Harmful by skin contact or by inhalation. Corrosive to skin, eyes and mucous membranes.	2054
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless, oily liquid. Flashpoint: 32°C c.c. Explosive limits: 1.1% to 6.1%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2055
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with an ethereal odour. Flashpoint: below –18°C c.c. Explosive limits: 1.5% to 12%. Miscible with water.	2056
–	T4	TP2	F-E, <u>S-D</u>	Category B	–	Colourless liquid. Immiscible with water.	2057
–	T2	TP2	F-E, <u>S-D</u>	Category A	–	See entry above.	2057
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 12°C c.c. Partially miscible with water. Irritating to skin, eyes and mucous membranes.	2058
–	T11	TP1 TP8 TP27	F-E, S-D	Category E	–	When involved in a fire, evolves toxic nitrous fumes.	2059
–	T4	TP1 TP8	F-E, S-D	Category B	–	See entry above.	2059

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	–	III	198 223	5 L	E0	P001 LP01	–	IBC03	–
2067	AMMONIUM NITRATE BASED FERTILIZER	5.1	–	III	306 307 900 967	5 kg	E1	P002 LP02	–	IBC08	B3
2071	AMMONIUM NITRATE BASED FERTILIZER	9	–	III	193	5 kg	E1	P002 LP02	–	IBC08	B3
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia	2.2	– P	–	–	120 mL	E0	P200	–	–	–
2074	ACRYLAMIDE, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2075	CHLORAL, ANHYDROUS, STABILIZED	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2076	CRESOLS, LIQUID	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2077	alpha-NAPHTHYLAMINE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2078	TOLUENE DIISOCYANATE	6.1	–	II	279	100 mL	E4	P001	–	IBC02	–
2079	DIETHYLENETRIAMINE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2186	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	2.3	8	–	900	–	–	–	–	–	–
2187	CARBON DIOXIDE, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
2188	ARSINE	2.3	2.1	–	–	0	E0	P200	–	–	–
2189	DICHLOROSILANE	2.3	2.1/8	–	–	0	E0	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T2	TP1	F-E, S-D	Category A	–	When involved in a fire, evolves toxic nitrous fumes.	2059
–	T1 BK2 BK3	TP33	F-H, S-Q	Category C SW1 SW14 SW23	SGG2 SG16 SG42 SG45 SG47 SG48 SG51 SG56 SG58 SG59 SG61	Crystals, granules or prills. Wholly or partly soluble in water. Supporters of combustion. A major fire aboard a ship carrying these substances may involve a risk of explosion in the event of contamination (e.g. by fuel oil) or strong confinement. An adjacent detonation may also involve a risk of explosion. If heated strongly, decompose, giving off toxic gases and gases which support combustion. Transport of AMMONIUM NITRATE liable to self-heating sufficient to initiate decomposition is <b>prohibited</b> .	2067
–	BK2	–	F-H, S-Q	Category A SW26	SGG2	Usually granules. Wholly or partly soluble in water. These mixtures may be subject to self-sustaining decomposition if heated. The temperature in such a reaction can reach 500°C. Decomposition, once initiated, may spread throughout the remainder, producing gases which are toxic. None of these mixtures is subject to the explosion hazard. Transport of AMMONIUM NITRATE liable to self-heating sufficient to initiate decomposition is <b>prohibited</b> .	2071
–	–	–	F-C, S-U	Category E SW2	SGG2 SGG18 SG35 SG46	Solution in water of non-flammable gas with a pungent odour. Reacts violently with acids. Extremely dangerous to the eyes.	2073
–	T1	TP33	F-A, S-A	Category A SW1 H2	–	Crystals or powder. Soluble in water. May polymerise violently on melting. Toxic if swallowed, by skin contact or by inhalation.	2074
–	T7	TP2	F-A, S-A	Category D SW2	–	Colourless, mobile liquid, evolving toxic vapours which are considerably heavier than air. Toxic if swallowed, by skin contact or by inhalation.	2075
–	T7	TP2	F-A, S-B	Category B	–	Colourless to light yellow liquids. Miscible with water. Melting point of <i>meta</i> -CRESOL: 12°C. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2076
–	T1	TP33	F-A, S-A	Category A	–	White crystals. Toxic if swallowed, by skin contact or by inhalation.	2077
–	T7	TP2 TP13	F-A, S-A	Category C SW1 SW2	–	Colourless to pale yellow liquid with a pungent odour. Immiscible with water but reacts with it to form carbon dioxide. Melting point: 20°C (pure product). Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2078
–	T7	TP2	F-A, S-B	Category A SW2	SGG18 SG35	Yellow hygroscopic liquid with ammoniacal odour. Soluble in water. Strongly alkaline, corrosive. Can form explosive mixtures with nitric acid. Reacts with oxidizing substances. Corrosive to copper and its alloys. Reacts violently with acids. Liquid and vapour can cause severe damage to skin and eyes.	2079
–	–	–	–	–	–	Transport is <b>prohibited</b> .	2186
–	T75	TP5	F-C, S-V	Category D	–	Non-flammable, liquefied gas, colourless and odourless. Heavier than air (1.5). Cannot remain in the liquid state above 31°C.	2187
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a garlic odour. Explosive limits: 3.9% to 77.8%. Much heavier than air (2.8).	2188
–	–	–	F-D, S-U	Category D SW2	SG4 SG9 SG72	Flammable, toxic and corrosive gas. Reacts with water, evolving hydrogen chloride. Highly irritating to skin, eyes and mucous membranes.	2189

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2190	OXYGEN DIFLUORIDE, COMPRESSED	2.3	5.1/8	–	–	0	E0	P200	–	–	–
2191	SULPHURYL FLUORIDE	2.3	–	–	–	0	E0	P200	–	–	–
2192	GERMANE	2.3	2.1	–	–	0	E0	P200	–	–	–
2193	HEXAFLUOROETHANE (REFRIGERANT GAS R 116)	2.2	–	–	–	120 mL	E1	P200	–	–	–
2194	SELENIUM HEXAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2195	TELLURIUM HEXAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2196	TUNGSTEN HEXAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2197	HYDROGEN IODIDE, ANHYDROUS	2.3	8	–	–	0	E0	P200	–	–	–
2198	PHOSPHORUS PENTAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2199	PHOSPHINE	2.3	2.1	–	–	0	E0	P200	–	–	–
2200	PROPADIENE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
2201	NITROUS OXIDE, REFRIGERATED LIQUID	2.2	5.1	–	–	0	E0	P203	–	–	–
2202	HYDROGEN SELENIDE, ANHYDROUS	2.3	2.1	–	–	0	E0	P200	–	–	–
2203	SILANE	2.1	–	–	–	0	E0	P200	–	–	–
2204	CARBONYL SULPHIDE	2.3	2.1	–	–	0	E0	P200	–	–	–
2205	ADIPONITRILE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-C, S-W	Category D SW2 H1	SG6 SG19	Non-flammable, toxic and corrosive, colourless gas with a foul odour. Strong oxidizing agent. Reacts slowly with water or moist air to produce poisonous and corrosive fumes. Corrosive to glass and to most metals. Heavier than air (1.9). Highly irritating to skin, eyes and mucous membranes.	2190
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic, colourless, odourless gas. Reacts with water or moist air to produce toxic and corrosive fumes. Much heavier than air (3.5). Irritating to skin, eyes and mucous membranes.	2191
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a pungent odour. Much heavier than air (2.6).	2192
–	–	–	F-C, S-V	Category A	–	Non-flammable, colourless and odourless gas. Much heavier than air (4.8). Cannot remain in liquid state above 24.3°C.	2193
–	–	–	F-C, S-U	Category D SW2	–	Colourless, toxic and corrosive gas. Corrosive to glass and to most metals. Heavier than air. Highly irritating to skin, eyes and mucous membranes.	2194
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive colourless gas with an unpleasant odour. Decomposes in water, evolving highly toxic and corrosive fumes. Corrosive to glass and to most metals. Much heavier than air (7.2). Highly irritating to skin, eyes and mucous membranes.	2195
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive, colourless gas, or yellow liquid. Decomposes in water or moist air, evolving highly toxic and corrosive fumes. Corrosive to glass and to most metals. Much heavier than air (10.3). Boiling point: 19.5°C. Highly irritating to skin, eyes and mucous membranes.	2196
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive colourless gas with a pungent odour. Highly corrosive in the presence of water. Much heavier than air (4.4). Highly irritating to skin, eyes and mucous membranes.	2197
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with an irritating odour. Reacts with water or moist air to produce toxic and corrosive fumes. Corrosive to glass and to most metals. Much heavier than air (4.3). Highly irritating to skin, eyes and mucous membranes.	2198
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a garlic odour. Ignites spontaneously in air. Heavier than air (1.2). Irritating to skin, eyes and mucous membranes.	2199
–	–	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable, colourless gas. Explosive limits: 1.7% to 12%. Heavier than air (1.4). Boiling point: –34°C. Irritating to skin, eyes and mucous membranes.	2200
–	T75	TP5 TP22	<u>F-C</u> , S-W	Category D SW2	–	Liquefied, non-flammable, colourless gas with a slightly sweet odour. Strong oxidizing agent. Heavier than air (1.5). Cannot remain in liquid state above 36.5°C.	2201
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a disagreeable odour. Much heavier than air (2.8). Highly irritating to skin, eyes and mucous membranes.	2202
–	–	–	F-D, S-U	Category E SW2	SG43 SG46	Flammable, colourless gas with a foul odour. Explosive limits: 1% to 100%. Ignites spontaneously in air. Strong reducing agent which reacts violently with oxidizing substances. Heavier than air (1.1).	2203
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a foul odour. Much heavier than air (2.1).	2204
–	T3	TP1	F-A, S-A	Category A	SGG6	Colourless, odourless oil. Decomposes above 93°C, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	2205

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2206	ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
2206	ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
2208	CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine	5.1	– P	III	314	5 kg	E1	P002	PP85	–	–
2209	FORMALDEHYDE SOLUTION with not less than 25% formaldehyde	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2210	MANEB or MANEB PREPARATION with not less than 60% maneb	4.2	4.3 P	III	273	0	E1	P002	PP100	IBC06	–
2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	9	–	III	382 965	5 kg	E1	P002	PP14	IBC08	B3 B6
2212	ASBESTOS, AMPHIBOLE (amosite, tremolite, actinolite, anthophyllite, crocidolite)	9	–	II	168 274	1 kg	E0	P002	PP37	IBC08	B4 B21
2213	PARAFORMALDEHYDE	4.1	–	III	223 967	5 kg	E1	P002 LP02	PP12	IBC08	B3
2214	PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride	8	–	III	169 939	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T11	TP2 TP13 TP27	F-A, S-A	Category E SW1 SW2	–	Liquids with a pungent odour. Immiscible with water but react with it to form carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. If under deck, with mechanical ventilation, six air changes per hour, except when carried in closed containers, when two air changes per hour are required. Irritating to skin, eyes and mucous membranes.	2206
–	T7	TP1 TP13 TP28	F-A, S-A	Category E SW1 SW2	–	See entry above.	2206
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes.	2208
–	T4	TP1	F-A, S-B	Category A	–	Colourless, clear liquid, with a suffocating pungent odour. Usually stabilized with methyl alcohol. Miscible with water. Causes burns to skin, eyes and mucous membranes.	2209
–	T1	TP33	F-G, <u>S-L</u>	Category A H1	SG26 SG29	Yellow powder, liable to heat and to ignite spontaneously in air. May evolve toxic, irritating or flammable fumes when wet, when involved in a fire or in contact with acids. Used as fungicide.	2210
–	T1	TP33	F-A, S-I	Category E SW1 SW6	SG5 SG14	A moulding material in bead or granular form consisting predominantly of polystyrene, poly(methyl methacrylate) or other polymeric material and containing 5% to 8% of a volatile hydrocarbon which is predominantly pentane. During storage, a small proportion of this pentane is released to the atmosphere; this proportion increases at elevated temperatures.	2211
–	T3	TP33	F-A, S-A	Category A SW2 H4	SG29	Mineral fibres of varying length. Non-combustible. Inhalation of the dust of asbestos fibres is dangerous and therefore exposure should be avoided at all times. Always prevent the generation of asbestos dust. A safe level of airborne concentration of asbestos fibres may be obtained through effective packing. Cargo spaces or freight containers that have contained any type of raw asbestos should be carefully cleaned before discharging any remaining cargo, loading other cargo or carrying out repair or maintenance work. Whenever possible, cleaning of cargo spaces should be carried out whilst the ship is in a port where proper facilities and equipment, including proper respiratory apparatus and protective clothing, is available. Parts of the body that may have been exposed should be immediately and thoroughly washed. All waste material should be collected in impermeable and sealed bags for safe disposal ashore. If cleaning cannot be carried out at the discharge port, arrangements should be made in advance for cleaning to be carried out at the next port where necessary facilities are available.	2212
–	T1 BK2 BK3	TP33	F-A, S-G	Category A SW23	–	White powder with a pungent odour. Evolves formaldehyde, particularly when heated, which is irritating to eyes and mucous membranes.	2213
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White powder or flakes and lumps containing a high proportion of dust. Melting point: 131°C. The vapour of the molten substance has a flashpoint of 152°C c.c. and forms a flammable atmosphere with explosive limits of 1.7% to 10.4%. Causes burns to skin, eyes and mucous membranes. May be carried in the molten state. The molten substance can cause severe skin burns.	2214



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2215	MALEIC ANHYDRIDE	8	–	III	–	5 kg	E1	P002	–	IBC08	B3
2215	MALEIC ANHYDRIDE, MOLTEN	8	–	III	–	0	E0	–	–	–	–
2216	FISH MEAL (FISH SCRAP), STABILIZED Anti-oxidant treated. Moisture content greater than 5% but not exceeding 12%, by mass. Fat content not more than 15%	9	–	III	29 117 300 308 907 928 973	0	E1	P900	–	IBC08	B3
2217	SEED CAKE with not more than 1.5% oil and not more than 11% moisture	4.2	–	III	29 142 973	0	E0	P002 LP02	PP20	IBC08	B3 B6
2218	ACRYLIC ACID, STABILIZED	8	3 P	II	386	1 L	E2	P001	–	IBC02	–
2219	ALLYL GLYCIDYL ETHER	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2222	ANISOLE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2224	BENZONITRILE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2225	BENZENESULPHONYL CHLORIDE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2226	BENZOTRICHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2227	n-BUTYL METHACRYLATE, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
△ 2232	2-CHLOROETHANAL	6.1	–	I	354	0	E0	P602	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49 SG50 SG57	White powder, needles, flakes, pellets, rods, briquettes, lumps or fused mass. Melting point: about 53°C. Fumes and dust are irritating to skin, eyes and mucous membranes. Inhalation can cause respiratory trouble.	2215
–	T4	TP3	F-A, S-B	Category A	SGG1 SG36 SG49 SG50 SG57	Melting point: about 53°C. The vapour of the molten substance has a flashpoint of 103°C c.c. and forms a flammable atmosphere with explosive limits of 1.4% to 7.1%. Fumes are irritating to skin, eyes and mucous membranes.	2215
–	T1 BK2	TP33	F-A, S-J	Category B SW24	SG18 SG65	Brown to greenish-brown product obtained through heating and drying of oily fish. Strong odour which may affect other cargo. Liable to heat spontaneously unless of low fat content or effectively anti-oxidant treated.	2216
–	BK2	–	F-A, S-J	Category A SW1 SW4 H1	–	Residue remaining after oil has been extracted by a solvent process from oil-bearing seeds. Used mainly as an animal feed or fertilizer. The most common seed cakes include those derived from coconut (copra), cottonseed, groundnut (peanut), linseed, maize (hominy chop), niger seed, palm kernel, rape seed, rice bran, soya bean and sunflower seed and they may be shipped in the form of cake, flakes, pellets, meal, etc. May self-heat slowly if wet and ignite spontaneously. Before shipment, this cargo should be properly aged. The duration of ageing varies with the oil content. The seed cake should be substantially free from flammable solvent. Smoking and the use of naked lights should not be allowed during loading and unloading, and on entry to cargo spaces at any other time.	2217
–	T7	TP2	F-E, <u>S-C</u>	Category C SW1 SW2	SGG1 SG36 SG49	Colourless, flammable liquid with an acrid odour. Melting point: 13°C. Flashpoint: 54°C o.c. Miscible with water. May polymerize violently, which may cause fire and explosion, unless properly stabilized. Harmful if swallowed or by inhalation. Corrosive to skin, eyes and mucous membranes.	2218
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 48°C c.c. Miscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2219
–	T2	TP1	F-E, S-D	Category A	–	Colourless to yellow liquid. Flashpoint: 41°C c.c. Explosive limits: 0.3% to 6.3%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2222
–	T7	TP2	F-A, S-A	Category A SW2	SG35	Colourless liquid with an odour similar to oil of bitter almonds. Reacts with acids, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	2224
–	T4	TP1	F-A, S-B	Category A SW2	SGG1	Colourless to slightly yellow liquid with a pungent odour. Melting point: 12°C. Immiscible with water. Decomposes slowly in water. Harmful if swallowed or by skin contact. Highly irritating to skin, eyes and mucous membranes.	2225
–	T7	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Colourless to slightly yellow or brown fuming liquid. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Harmful if swallowed, by skin contact or by inhalation. Burns skin and eyes. Vapour irritates eyes and mucous membranes.	2226
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless liquid. Flashpoint: 41°C c.c. Explosive limits: 2% to 8%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2227
–	T20	TP2 TP13	F-A, S-A	Category D SW2	–	Clear colourless liquid with a pungent odour. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	2232

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2233	CHLOROANISIDINES	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2234	CHLOROBENZOTRIFLUORIDES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2235	CHLOROBENZYL CHLORIDES, LIQUID	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2236	3-CHLORO-4-METHYLPHENYL ISOCYANATE, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2237	CHLORONITROANILINES	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2238	CHLOROTOLUENES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2239	CHLOROTOLUIDINES, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2240	CHROMOSULPHURIC ACID	8	–	I	–	0	E0	P001	–	–	–
2241	CYCLOHEPTANE	3	– P	II	–	1 L	E2	P001	–	IBC02	–
2242	CYCLOHEPTENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2243	CYCLOHEXYL ACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2244	CYCLOPENTANOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2245	CYCLOPENTANONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2246	CYCLOPENTENE	3	–	II	–	1 L	E2	P001	–	IBC02	B8
2247	<i>n</i> -DECANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2248	DI- <i>n</i> -BUTYLAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
△ 2249	DICHLORODIMETHYL ETHER, SYMMETRICAL	6.1	3	I	976	0	E0	P099	–	–	–
2250	DICHLOROPHENYL ISOCYANATES	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-A	Category A	–	Crystalline solid. Melting point: 52°C. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2233
–	T2	TP1	F-E, S-D	Category A SW2	SGG10	Colourless liquids with an aromatic odour. Flashpoint: 36°C to 59°C c.c. On contact with moisture, can evolve hydrogen fluoride, which is a toxic and corrosive gas. Harmful by inhalation.	2234
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2235
–	–	–	F-A, S-A	Category B SW2	–	Colourless liquid with a pungent odour. Immiscible with water. Reacts with water, evolving carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2236
–	T1	TP33	F-A, S-A	Category A	–	Yellow or orange crystalline powders or needles. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2237
–	T2	TP1	F-E, S-D	Category A	SGG10	Colourless to brown liquids. Flashpoint: 43°C to 47°C c.c. Immiscible with water. When involved in a fire, evolve toxic gases. Harmful by skin contact or by inhalation. Irritating to eyes and mucous membranes.	2238
–	T1	TP33	F-A, S-A	Category A	–	Crystalline solids. Some isomers may melt at low temperature: melting range between 0°C and 24°C. Toxic if swallowed, by skin contact or by inhalation.	2239
–	T10	TP2 TP13	F-A, S-B	Category B SW2	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	A liquid mixture of sulphuric acid and a chromium compound (e.g. chromium trioxide or sodium dichromate) and sometimes also water. Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.	2240
–	T4	TP2	F-E, S-D	Category B SW2	–	Oily liquid. Immiscible with water. Narcotic.	2241
–	T4	TP1	F-E, S-D	Category B	–	Oily liquid. Immiscible with water.	2242
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 56°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2243
–	T2	TP1	F-E, S-D	Category A	–	Colourless, oily liquid. Flashpoint: 51°C c.c. Immiscible with water.	2244
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 31°C c.c. Immiscible with water.	2245
–	T7	TP2	F-E, S-D	Category E	–	Colourless liquid. Flashpoint: –30°C c.c. Boiling point: 44°C. Immiscible with water. Irritating to skin, eyes and mucous membranes. Narcotic.	2246
–	T2	TP1	F-E, S-E	Category A	–	Colourless liquid. Flashpoint: 47°C c.c. Explosive limits: 0.6% to 5.5%. Immiscible with water.	2247
–	T7	TP2	F-E, S-C	Category A	SG35	Colourless, flammable liquid with an amine odour. Flashpoint: 39°C c.c. Partially miscible with water. Decomposes when heated, evolving flammable and toxic gases. Liquid is corrosive to skin, eyes and mucous membranes. Vapour irritates mucous membranes.	2248
–	–	–	F-E, S-D	Category D SW2	–	Colourless, volatile, flammable liquid. Flashpoint: 42°C c.c. Immiscible with water. Decomposed by heat and water. Highly toxic if swallowed, by skin contact or by inhalation. The transport of this substance is prohibited except with special authorization granted by the competent authorities.	2249
–	T3	TP33	F-A, S-A	Category B SW1 SW2	–	Colourless to yellowish crystalline solid with an irritating odour. Insoluble in water. Reacts with water, evolving carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. May be carried in the molten state. Irritating to skin, eyes and mucous membranes.	2250



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2251	BICYCLO[2.2.1]-HEPTA-2,5-DIENE, STABILIZED (2,5-NORBORNADIENE, STABILIZED)	3	–	II	386	1 L	E2	P001	–	IBC02	–
2252	1,2-DIMETHOXYETHANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2253	N,N-DIMETHYLANILINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2254	MATCHES, FUSEE	4.1	–	III	293	5 kg	E0	P407	–	–	–
2256	CYCLOHEXENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2257	POTASSIUM	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
2258	1,2-PROPYLENEDIAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
2259	TRIETHYLENETETRAMINE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2260	TRIPROPYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2261	XYLENOLS, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2262	DIMETHYLCARBAMOYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2263	DIMETHYLCYCLOHEXANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2264	N,N-DIMETHYL-CYCLOHEXYLAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
2265	N,N-DIMETHYLFORMAMIDE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2266	DIMETHYL-N-PROPYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2267	DIMETHYL THIOPHOSPHORYL CHLORIDE	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2269	3,3'-IMINODIPROPYLAMINE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T7	TP2	F-E, S-D	Category D SW1	–	Colourless, volatile liquid. Flashpoint: below –18°C c.c. Explosive limits: 1.7% to 6.3%. Immiscible with water.	2251
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with an ethereal odour. Flashpoint: 1°C c.c. Miscible with water.	2252
–	T7	TP2	F-A, S-A	Category A	–	Yellowish to brownish oily liquid. Combustible. Toxic if swallowed, by skin contact or by inhalation.	2253
–	–	–	F-A, S-I	Category A	–	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, regardless of wind or other weather conditions.	2254
–	T4	TP1	F-E, S-D	Category E	–	Colourless liquid with an aromatic odour. Immiscible with water. Slightly irritating to skin, eyes and mucous membranes.	2256
–	T9	TP7 TP33	<u>F-G</u> , S-N	Category D H1	SG26 SG35	Soft, silvery metal, solid or liquid. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	2257
–	T7	TP2	F-E, S-C	Category A SW2	SG35	Colourless, flammable liquid with an ammoniacal odour. Flashpoint range: 33°C to 48°C c.c. Miscible with water. When involved in a fire, evolves toxic gases. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2258
–	T7	TP2	F-A, S-B	Category B SW2	SGG18 SG35	Moderately viscous, yellow combustible liquid with an ammoniacal odour. Miscible with water. Strongly alkaline. Can form explosive mixtures with nitric acid. When involved in a fire, evolves toxic gases. Corrosive to copper and copper alloys. Reacts violently with acids. Liquid and vapours cause burns to skin, eyes and mucous membranes. Causes skin allergy.	2259
–	T4	TP1	F-E, S-C	Category A SW2	SG35	Colourless liquid. Flashpoint: 35°C c.c. Partially miscible with water. When involved in a fire, evolves toxic gases. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2260
–	T3	TP33	F-A, S-A	Category A	–	Crystals or needles. Toxic if swallowed, by skin contact or by inhalation.	2261
–	T7	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Colourless to yellow liquid with a pungent odour. Immiscible with water. Reacts with water, evolving toxic and corrosive fumes. Causes tears. Causes burns to skin, eyes and mucous membranes.	2262
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. Flashpoint: 5°C to 16°C c.c. Immiscible with water.	2263
–	T7	TP2	F-E, S-C	Category A SW2	SG35	Colourless, flammable liquid. Flashpoint: 43°C c.c. Partially miscible with water. Causes burns to skin, eyes and mucous membranes.	2264
–	T2	TP2	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 58°C c.c. Explosive limits: 2.2% to 16%. Miscible with water. May react violently with oxidizing materials.	2265
–	T7	TP2 TP13	F-E, S-C	Category B SW2	SG35	Colourless liquid with a fishy odour. Flashpoint: –11°C c.c. Miscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	2266
–	T7	TP2	F-A, S-B	Category B SW1	SGG1 SG36 SG49	Colourless, combustible liquid with a pungent odour. Reacts slowly with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. May decompose above 60°C, evolving flammable gases. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2267
–	T4	TP2	F-A, S-B	Category A	SG35	Colourless combustible liquid. Miscible with water. Harmful if swallowed or by inhalation. Corrosive to skin, eyes and mucous membranes.	2269

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2270	ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine	3	8	II	–	1 L	E2	P001	–	IBC02	–
2271	ETHYL AMYL KETONES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2272	N-ETHYLANILINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2273	2-ETHYLANILINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2274	N-ETHYL-N-BENZYLANILINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2275	2-ETHYLBUTANOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2276	2-ETHYLHEXYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2277	ETHYL METHACRYLATE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
2278	n-HEPTENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2279	HEXACHLOROBUTADIENE	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2280	HEXAMETHYLENEDIAMINE, MOLTEN	8	–	III	–	0	E0	–	–	–	–
2280	HEXAMETHYLENEDIAMINE, SOLID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2281	HEXAMETHYLENE DIISOCYANATE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2282	HEXANOLS	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2283	ISOBUTYL METHACRYLATE, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
2284	ISOBUTYRONITRILE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2285	ISOCYANATO BENZO-TRIFLUORIDES	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP1	F-E, S-C	Category B SW2	SGG18 SG35	Aqueous solution of a flammable gas with an ammonia-like odour. Explosive limits: 3.5% to 14%. ETHYLAMINE SOLUTION, concentration 50%: flashpoint –11°C c.c.; boiling point 56°C. Pure ETHYLAMINE: boiling point 17°C. Miscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	2270
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Vapour is much heavier than air (4.4). ETHYL <i>normal</i> -AMYL KETONE: flashpoint 43°C c.c. ETHYL <i>secondary</i> -AMYL KETONE: flashpoint 57°C c.c. Immiscible with water. Dissolves some types of plastics. Irritating to skin, eyes and mucous membranes.	2271
–	T4	TP1	F-A, S-A	Category A	SG17 SG35	Colourless to yellowish oily liquid. Reacts with acids, evolving highly toxic fumes of aniline and oxides of nitrogen. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2272
–	T4	TP1	F-A, S-A	Category A	SG17 SG35	Brown liquid. Immiscible with water. Reacts with acids, evolving highly toxic fumes of aniline and oxides of nitrogen. Reacts violently with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2273
–	T4	TP1	F-A, S-A	Category A	–	Light yellow, oily liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2274
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 57°C o.c. Immiscible with water.	2275
–	T4	TP1	F-E, S-C	Category A SW2	SG35	Colourless liquid. Flashpoint: 50°C c.c. Miscible with water. Irritating to skin, eyes and mucous membranes.	2276
–	T4	TP1	F-E, S-D	Category C SW1	–	Colourless liquid with a pungent odour. Flashpoint: 20°C o.c. Lower explosive limit: 1.8%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2277
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –3°C c.c. Immiscible with water.	2278
–	T4	TP1	F-A, <u>S-A</u>	Category A	SGG10	Colourless liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2279
–	T4	TP1	F-A, S-B	Category A SW1 H2	SG35	White crystals or shiny flakes with a specific odour. Melting point: 29°C. Soluble in water; solution in water is a strong alkali. Decomposes when heated, evolving flammable and toxic gases. Causes burns to skin, eyes and mucous membranes.	2280
–	T1	TP33	F-A, S-B	Category A SW1 H2	SG35	See entry above.	2280
–	T7	TP2 TP13	F-A, S-A	Category C SW2 H1	–	Colourless to light yellow liquid with a pungent odour. Immiscible with water but reacts with it, evolving heat and carbon dioxide gas. When heated, evolves toxic nitrous fumes. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2281
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. <i>normal</i> -HEXANOL: flashpoint 57°C c.c. Miscible with water.	2282
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless liquid. Flashpoint: 49°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2283
–	T7	TP2 TP13	F-E, S-D	Category E SW2	–	Colourless liquid. Flashpoint: 8°C c.c. Immiscible with water. Toxic by skin contact or by inhalation.	2284
–	T7	TP2	F-E, S-D	Category D SW1 SW2	–	Colourless or yellowish liquids with a pungent odour. Flashpoint of <i>ortho</i> - and <i>meta</i> -isomers: 56°C. Immiscible with water, but reacts with it to form carbon dioxide gas. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2285

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2286	PENTAMETHYLHEPTANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2287	ISOHEPTENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2288	ISOHEXENES	3	–	II	–	1 L	E2	P001	–	IBC02	B8
2289	ISOPHORONEDIAMINE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2290	ISOPHORONE DIISOCYANATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2291	LEAD COMPOUND, SOLUBLE, N.O.S.	6.1	– P	III	199 274	5 kg	E1	P002 LP02	–	IBC08	B3
2293	4-METHOXY-4-METHYL-PENTAN-2-ONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2294	N-METHYLANILINE	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2295	METHYL CHLOROACETATE	6.1	3	I	–	0	E0	P001	–	–	–
2296	METHYLCYCLOHEXANE	3	– P	II	–	1 L	E2	P001	–	IBC02	–
2297	METHYLCYCLOHEXANONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2298	METHYLCYCLOPENTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2299	METHYL DICHLOROACETATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2300	2-METHYL-5-ETHYLPYRIDINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2301	2-METHYLFURAN	3	–	II	–	1 L	E2	P001	–	IBC02	–
2302	5-METHYLHEXAN-2-ONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2303	ISOPROPENYLBENZENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2304	NAPHTHALENE, MOLTEN	4.1	– P	III	–	0	E0	–	–	–	–
2305	NITROBENZENESULPHONIC ACID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 43°C c.c. Immiscible with water.	2286
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. Immiscible with water.	2287
–	T11	TP1	F-E, S-D	Category E	–	Colourless liquids. Boiling range: 54°C to 69°C. Immiscible with water.	2288
–	T4	TP1	F-A, S-B	Category A	SG35	Colourless, slightly hygroscopic liquid with a slight amine odour. Combustible. Miscible with water. Harmful if swallowed. Irritating to skin, eyes and mucous membranes.	2289
–	T4	TP2	F-A, S-A	Category B SW2	–	Colourless or yellowish liquid. Immiscible with water. When involved in a fire, evolves nitrous fumes. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2290
–	T1	TP33	F-A, <u>S-A</u>	Category A	SGG7 SGG9	Colourless crystals or powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2291
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 49°C c.c. Immiscible with water.	2293
–	T4	TP2	F-A, <u>S-A</u>	Category A	–	Colourless to brown combustible liquid. Toxic if swallowed, by skin contact or by inhalation.	2294
–	T14	TP2 TP13	F-E, S-D	Category D	–	Colourless, flammable liquid with a pungent odour. Flashpoint: 47°C c.c. Vapour much heavier than air (vapour density relative to air: 3.8). Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	2295
–	T4	TP2	F-E, <u>S-D</u>	Category B	–	Colourless liquid. Flashpoint: –4°C c.c. Explosive limits: 1.2% to 6.7%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2296
–	T2	TP1	F-E, S-D	Category A	–	Colourless to pale yellow liquids with a sweet odour. 2-METHYLCYCLOHEXANONE: flashpoint 46°C c.c. 3-METHYLCYCLOHEXANONE: flashpoint 51°C c.c. 4-METHYLCYCLOHEXANONE: flashpoint 40°C c.c. Immiscible with water.	2297
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: below –10°C c.c. Explosive limits: 1% to 8.4%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2298
–	T4	TP1	F-A, S-A	Category A	–	Liquid. Toxic if swallowed, by skin contact or by inhalation.	2299
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid with a pungent odour. Toxic if swallowed, by skin contact or by inhalation.	2300
–	T4	TP1	F-E, S-D	Category E	–	Colourless liquid with a sweetish odour. Flashpoint: –30°C c.c. Immiscible with water. When involved in a fire, evolves toxic gases. Harmful if swallowed or by inhalation. Irritating to skin, eyes and mucous membranes.	2301
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 43°C c.c. Immiscible with water.	2302
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 38°C to 54°C c.c. Explosive limits: 0.7% to 6.6%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2303
–	T1	TP3	F-A, S-H	Category C	–	Molten liquid with a persistent odour. Melting point: 80°C. Evolves flammable vapours. As the melting point of naphthalene approximates very closely its flashpoint, care should be taken to avoid all possible causes of ignition. Contact between water and molten naphthalene above 110°C must be avoided, as the addition of water will cause violent foaming or even an explosion.	2304
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Crystals. Soluble in water. Causes burns to skin, eyes and mucous membranes.	2305

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2306	NITROBENZOTRIFLUORIDES, LIQUID	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
2307	3-NITRO-4-CHLORO-BENZOTRIFLUORIDE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
2308	NITROSYLSULPHURIC ACID, LIQUID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
2309	OCTADIENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2310	PENTANE-2,4-DIONE	3	6.1	III	–	5 L	E1	P001	–	IBC03	–
2311	PHENETIDINES	6.1	–	III	279	5 L	E1	P001 LP01	–	IBC03	–
2312	PHENOL, MOLTEN	6.1	–	II	–	0	E0	–	–	–	–
2313	PICOLINES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2315	POLYCHLORINATED BIPHENYLS, LIQUID	9	– P	II	305	1 L	E2	P906	–	IBC02	–
2316	SODIUM CUPROCYANIDE, SOLID	6.1	– P	I	–	0	E5	P002	–	IBC07	B1
2317	SODIUM CUPROCYANIDE SOLUTION	6.1	– P	I	–	0	E5	P001	–	–	–
2318	SODIUM HYDROSULPHIDE with less than 25% water of crystallization	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
2319	TERPENE HYDROCARBONS, N.O.S.	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2320	TETRAETHYLENEPENTAMINE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2321	TRICHLOROBENZENES, LIQUID	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2322	TRICHLOROBUTENE	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
2323	TRIETHYL PHOSPHITE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2324	TRIISOBUTYLENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	–	Pale straw-coloured, oily liquids with an aromatic odour. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2306
–	T7	TP2	F-A, <u>S-A</u>	Category A SW2	–	Yellowish, oily liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2307
–	T8	TP2	F-A, S-B	Category D SW2	SGG1a SG6 SG16 SG17 SG19 SG36 SG49	Clear, straw-coloured, oily liquid. Oxidant which may cause fire with organic materials (such as wood, straw, etc.). When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2308
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 9°C to 15°C c.c. Immiscible with water.	2309
–	T4	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 34°C c.c. Lower explosive limit: 1.7%. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2310
–	T4	TP1	F-A, S-A	Category A	–	Colourless to yellowish liquids. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2311
–	T7	TP3	F-A, S-A	Category B SW2	–	Molten liquid with a distinctive strong odour. Melting point: 10°C to 43°C (pure product). Toxic if swallowed, by skin contact or by inhalation. Rapidly absorbed through the skin.	2312
–	T4	TP1	F-E, S-D	Category A SW2	–	Colourless to yellow liquids with a pungent or sweet odour. Explosive limits: 1.3% to 8.7%. Miscible with water. Harmful by inhalation. <i>alpha</i> -Picoline flashpoint: 28°C c.c. <i>beta</i> -Picoline flashpoint: 40°C c.c. <i>gamma</i> -Picoline flashpoint 40°C c.c. Irritating to skin, eyes and mucous membranes.	2313
–	T4	TP1	F-A, <u>S-A</u>	Category A	SG50	Colourless liquid (pure product) with perceptible odours. Immiscible with water. Harmful by ingestion or by skin contact. If spilled, can be a persistent hazard to the environment. This entry also covers articles, such as transformers and condensers, containing free liquid polychlorinated biphenyls.	2315
–	T6	TP33	F-A, <u>S-A</u>	Category A	SGG6 SG35	White powder. Soluble in water. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by dust inhalation.	2316
–	T14	TP2 TP13	F-A, <u>S-A</u>	Category B SW2	SGG6 SG35	Colourless liquid. Miscible with water. Decomposed by acids, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed, by skin contact or by inhalation.	2317
–	T3	TP33	F-A, S-J	Category A	SGG18 SG35	Colourless needles to lemon-coloured flakes. Soluble in water. Reacts violently with acids.	2318
–	T4	TP1 TP29	F-E, S-D	Category A	–	Colourless or yellowish liquids. Flashpoint: 32°C to 49°C c.c. Immiscible with water.	2319
–	T4	TP1	F-A, S-B	Category A	SGG18 SG35	Viscous liquid. Miscible with water. When involved in a fire, evolves toxic gases. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	2320
–	T4	TP1	F-A, <u>S-A</u>	Category A	SGG10	Colourless liquids. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2321
–	T7	TP2	F-A, <u>S-A</u>	Category A SW1 SW2	SGG10	Colourless liquid. Immiscible with water. When heated, develops toxic and irritant gases such as phosgene and hydrogen chloride and may also explode. Toxic if swallowed, by skin contact or by inhalation.	2322
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 44°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2323
–	T4	TP1	F-E, S-D	Category A	–	Colourless liquid. Immiscible with water.	2324



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2325	1,3,5-TRIMETHYLBENZENE	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2326	TRIMETHYLCYCLOHEXYL-AMINE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2327	TRIMETHYLHEXAMETHYLENE-DIAMINES	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2328	TRIMETHYLHEXAMETHYLENE DIISOCYANATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2329	TRIMETHYL PHOSPHITE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2330	UNDECANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2331	ZINC CHLORIDE, ANHYDROUS	8	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2332	ACETALDEHYDE OXIME	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2333	ALLYL ACETATE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
△ 2334	ALLYLAMINE	6.1	3	I	354	0	E0	P602	–	–	–
2335	ALLYL ETHYL ETHER	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2336	ALLYL FORMATE	3	6.1	I	–	0	E0	P001	–	–	–
△ 2337	PHENYL MERCAPTAN	6.1	3	I	354	0	E0	P602	–	–	–
2338	BENZOTRIFLUORIDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2339	2-BROMOBUTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2340	2-BROMOETHYL ETHYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
2341	1-BROMO-3-METHYLBUTANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2342	BROMOMETHYLPROPANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2343	2-BROMOPENTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5					
–	T2	TP2	F-E, <u>S-D</u>	Category A	–	Colourless liquid. Flashpoint: 44°C c.c. Immiscible with water. Harmful by inhalation.	2325
–	T4	TP1	F-A, S-B	Category A	SG35	Colourless, slightly hygroscopic, combustible liquid with a slight amine odour. Immiscible with water. Causes burns to skin, eyes and mucous membranes.	2326
–	T4	TP1	F-A, S-B	Category A	SG35	Colourless, slightly hygroscopic, combustible liquids. Miscible with water. Irritating to skin, eyes and mucous membranes.	2327
–	T4	TP2 TP13	F-A, S-A	Category B	–	Colourless or yellowish liquid. Reacts with water, evolving carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2328
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 23°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2329
–	T2	TP1	F-E, S-E	Category A	–	Colourless liquid. Flashpoint: 60°C c.c. Immiscible with water.	2330
–	T1	TP33	F-A, <u>S-B</u>	Category A	SGG1 SGG7 SG36 SG49	White, deliquescent crystals. Soluble in water. Dust causes burns to skin, eyes and mucous membranes.	2331
–	T4	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 40°C c.c. Explosive limits: 4.2% to 52%. Freezing point 12°C. Miscible with water. Irritating to skin, eyes and mucous membranes.	2332
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless liquid. Flashpoint: 7°C c.c. Partially miscible with water. Toxic if swallowed, by skin contact or by inhalation. Harmful if swallowed.	2333
–	T20	TP2 TP13	F-E, S-D	Category D SW2	SG35	Colourless to light yellow volatile liquid with a pungent odour. Flashpoint: –29°C c.c. Explosive limits: 2.2% to 22%. Boiling range: 55°C to 58°C. Miscible with water. When involved in a fire, evolves highly toxic gases. Highly toxic if swallowed, by skin contact or by inhalation.	2334
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless liquid. Flashpoint: –11°C c.c. Vapour heavier than air. Immiscible with water. Narcotic. Toxic if swallowed, by skin contact or by inhalation.	2335
–	T14	TP2 TP13	F-E, S-D	Category E SW2	–	Colourless liquid. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	2336
–	T20	TP2 TP13	F-E, S-D	Category D SW2	SG35	Colourless flammable liquid with a foul odour. Flashpoint: 50°C c.c. Immiscible with water. In contact with acids or when involved in a fire, evolves highly toxic sulphurous fumes. Highly toxic if swallowed, by skin contact or by inhalation.	2337
–	T4	TP1	F-E, S-D	Category B SW2	–	Colourless liquid with an aromatic odour. Flashpoint: 12°C c.c. Lower explosive limit: 2.1%. Immiscible with water. On contact with moisture or air evolves hydrogen fluoride, which is a toxic and corrosive gas. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2338
–	T4	TP1	F-E, S-D	Category B SW2	SGG10	Colourless liquid with a pleasant odour. Flashpoint: 21°C c.c. Immiscible with water. When involved in a fire, evolves toxic fumes. Narcotic.	2339
–	T4	TP1	F-E, S-D	Category B SW2	–	Colourless liquid with an ethereal odour. Partially miscible with water. Harmful by inhalation.	2340
–	T2	TP1	F-E, S-D	Category A	SGG10	Colourless liquid. Flashpoint: 23°C to 32°C c.c. Immiscible with water.	2341
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquids. Immiscible with water. Harmful by inhalation.	2342
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless or yellow liquid with a strong odour. Flashpoint: 21°C c.c. Immiscible with water. Harmful by inhalation.	2343

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2344	BROMOPROPANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2344	BROMOPROPANES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2345	3-BROMOPROPYNE	3	–	II	905	1 L	E2	P001	–	IBC02	–
2346	BUTANEDIONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2347	BUTYL MERCAPTAN	3	–	II	–	1 L	E2	P001	–	IBC02	–
2348	BUTYL ACRYLATES, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
2350	BUTYL METHYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
2351	BUTYL NITRITES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2351	BUTYL NITRITES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2352	BUTYL VINYL ETHER, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
2353	BUTYRYL CHLORIDE	3	8	II	–	1 L	E2	P001	–	IBC02	B20
2354	CHLOROMETHYL ETHYL ETHER	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2356	2-CHLOROPROPANE	3	–	I	–	0	E3	P001	–	–	–
2357	CYCLOHEXYLAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
2358	CYCLOOCTATETRAENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2359	DIALLYLAMINE	3	6.1/8	II	–	1 L	E2	P001	–	IBC99	–
2360	DIALLYL ETHER	3	6.1	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1	F-E, S-D	Category B SW2	SGG10	Colourless liquids. Immiscible with water. When involved in a fire, evolve toxic fumes. Harmful by inhalation.	2344
–	T2	TP1	F-E, S-D	Category A	SGG10	See entry above.	2344
–	T4	TP1	F-E, S-D	Category D SW2	–	Colourless to light amber liquid with a sharp odour. Flashpoint: 10°C c.c. Lower explosive limit: 3%. Vapour much heavier than air (4.1). 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. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes. Causes tears.	2345
–	T4	TP1	F-E, S-D	Category B	–	Greenish-yellow liquid with a strong odour. Flashpoint: 6°C c.c. Miscible with water.	2346
–	T4	TP1	F-E, S-D	Category B	SG35 SG50 SG57	Colourless liquids with a foul odour. <i>tertiary</i> -BUTYL MERCAPTAN: flashpoint –26°C c.c. <i>secondary</i> -BUTYL MERCAPTAN: flashpoint –23°C c.c. 1-BUTANETHIOL ( <i>normal</i> -BUTYL MERCAPTAN): flashpoint 12°C c.c. ISOBUTYL MERCAPTAN: flashpoint –9°C c.c. Immiscible with water. On contact with acids, emit highly toxic fumes.	2347
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless liquid with an unpleasant odour. Flashpoint: 36°C to 41°C c.c. Explosive limits: 1.2% to 9.9%. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2348
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Immiscible with water.	2350
–	T4	TP1	F-E, S-D	Category B SW2	–	Yellowish, volatile, oily liquids. Partially miscible with water. Decompose on exposure to air, light, water or heat, evolving toxic nitrous fumes. Harmful by inhalation.	2351
–	T2	TP1	F-E, S-D	Category A SW2	–	See entry above.	2351
–	T4	TP1	F-E, S-D	Category C SW1 SW2	–	Colourless, volatile liquid with a sharp ethereal odour. Flashpoint: –9°C c.c. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2352
–	T8	TP2 TP13	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2353
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless liquid with a pungent odour. Partially miscible with water. Fumes in air, evolving hydrogen chloride, which is an irritating and corrosive gas. Toxic by inhalation. Strong lachrymator.	2354
–	T11	TP2 TP13	F-E, S-D	Category E	SGG10	Colourless liquid. Flashpoint: –32°C c.c. Explosive limits: 2.8% to 10.7%. Boiling point: 35°C. Immiscible with water. On contact with heat or flame, emits highly toxic phosgene gas. Can react vigorously with oxidizing materials.	2356
–	T7	TP2	F-E, S-C	Category A SW2	SG35	Colourless or yellowish flammable liquid with a fishy odour. Flashpoint: 27°C c.c. Explosive limits: 0.5% to 21.7%. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2357
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Freezing point: –4°C. Immiscible with water.	2358
–	T7	TP1	F-E, S-C	Category B SW2	SG5 SG8 SG35	Colourless, volatile liquid with a disagreeable odour. Flashpoint: 7°C c.c. Partially miscible with water. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2359
–	T7	TP1 TP13	F-E, S-D	Category E	–	Colourless, volatile liquid with a perceptible odour. Flashpoint: –11°C c.c. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2360



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2361	DIISOBUTYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2362	1,1-DICHLOROETHANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2363	ETHYL MERCAPTAN	3	– P	I	–	0	E0	P001	–	–	–
2364	<i>n</i> -PROPYLBENZENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2366	DIETHYL CARBONATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2367	<i>alpha</i> -METHYL-VALERALDEHYDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2368	<i>alpha</i> -PINENE	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2370	1-HEXENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2371	ISOPENTENES	3	–	I	–	0	E3	P001	–	–	–
2372	1,2-DI-(DIMETHYLAMINO) ETHANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2373	DIETHOXYMETHANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2374	3,3-DIETHOXYPROPENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2375	DIETHYL SULPHIDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2376	2,3-DIHYDROPYRAN	3	–	II	–	1 L	E2	P001	–	IBC02	–
2377	1,1-DIMETHOXYETHANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2378	2-DIMETHYLAMINO-ACETONITRILE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2379	1,3-DIMETHYLBUTYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2380	DIMETHYLDIETHOXSILANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
△ 2381	DIMETHYL DISULPHIDE	3	6.1 P	II	–	1 L	E0	P001	–	IBC02	–
△ 2382	DIMETHYLHYDRAZINE, SYMMETRICAL	6.1	3 P	I	354	0	E0	P602	–	–	–
△ 2383	DIPROPYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1	F-E, S-C	Category A	SG35	Colourless liquid with a fishy odour. Flashpoint: 29°C c.c. Immiscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2361
–	T4	TP1	F-E, S-D	Category B SW2	SGG10	Colourless liquid with an aromatic, ethereal odour. Flashpoint: –10°C c.c. Lower explosive limit: 5.6%. Immiscible with water. When involved in a fire, emits toxic fumes of phosgene. Harmful by inhalation.	2362
–	T11	TP2 TP13	F-E, <u>S-D</u>	Category E	SG50 SG57	Volatile liquid with a strong unpleasant odour. Flashpoint: –45°C c.c. Explosive limits: 2.8% to 18.2%. Boiling point: 35°C. Immiscible with water.	2363
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 39°C c.c. Explosive limits: 0.8% to 6%. Immiscible with water.	2364
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 25°C to 31°C c.c. Vapour much heavier than air (4.1). Immiscible with water. Irritating to skin, eyes and mucous membranes.	2366
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 13°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2367
–	T2	TP2	F-E, S-E	Category A	–	Colourless liquid with an odour of turpentine. Flashpoint: 33°C c.c. Explosive limits: 0.8% to 6%. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2368
–	T4	TP1	F-E, S-D	Category E	–	Colourless liquid. Explosive limits: 1.2% to 6.9%. Immiscible with water.	2370
–	T11	TP2	F-E, S-D	Category E	–	Colourless, volatile liquid with a disagreeable odour. Flashpoint: below –18°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2371
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 21°C c.c. Miscible with water. Irritability to skin, eyes and mucous membranes.	2372
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: below –5°C c.c. Miscible with water.	2373
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 15°C c.c. Partially miscible with water. Harmful by inhalation.	2374
–	T7	TP1 TP13	F-E, S-D	Category E	–	Colourless, volatile liquid with an odour of garlic. Flashpoint: –10°C c.c. Immiscible with water.	2375
–	T4	TP1	F-E, S-D	Category B	–	Colourless, volatile liquid with an ethereal odour. Flashpoint: –16°C c.c. Miscible with water.	2376
–	T7	TP1	F-E, S-D	Category B	–	Colourless liquid with a strong aromatic odour. Miscible with water.	2377
–	T7	TP1	F-E, S-D	Category A SW2	SG35	Colourless liquid. Flashpoint: 35°C c.c. Immiscible with water. On contact with water and acids, evolves toxic fumes. Toxic if swallowed, by skin contact or by inhalation.	2378
–	T7	TP1	F-E, S-C	Category B	SGG18 SG35	Colourless liquid with an ammonia-like odour. Flashpoint: 9°C to 13°C c.c. Immiscible with water. Reacts violently with acids. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2379
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 13°C c.c. Miscible with water. Irritating to skin, eyes and mucous membranes.	2380
–	T7	TP2 TP13	F-E, <u>S-D</u>	Category B SW2	–	Yellow liquid with an unpleasant odour. Flashpoint: 15°C c.c. Immiscible with water. When involved in a fire, evolves toxic gases. Toxic if swallowed, by skin contact or by inhalation.	2381
–	T20	TP2 TP13	F-E, <u>S-D</u>	Category D SW2	SGG18 SG17 SG35	Colourless, flammable, volatile liquid with an ammonia-like odour. Miscible with water. Reacts violently with acids. May react dangerously with oxidizing substances. Flashpoint: –17°C c.c. Highly toxic if swallowed, by skin contact or by inhalation.	2382
–	T7	TP1	F-E, S-C	Category B SW1	SG35	Colourless liquid with a fishy odour. Flashpoint: 7°C c.c. Immiscible with water. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	2383

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2384	DI- <i>n</i> -PROPYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
2385	ETHYL ISOBUTYRATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2386	1-ETHYLPIPERIDINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2387	FLUOROBENZENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2388	FLUOROTOLUENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2389	FURAN	3	–	I	–	0	E3	P001	–	–	–
2390	2-IODOBUTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2391	IODOMETHYLPROPANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2392	IODOPROPANES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2393	ISOBUTYL FORMATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2394	ISOBUTYL PROPIONATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2395	ISOBUTYRYL CHLORIDE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2396	METHACRYLALDEHYDE, STABILIZED	3	6.1	II	386	1 L	E2	P001	–	IBC02	–
2397	3-METHYLBUTAN-2-ONE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2398	METHYL <i>tert</i> -BUTYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
2399	1-METHYLPIPERIDINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2400	METHYL ISOVALERATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2401	PIPERIDINE	8	3	I	–	0	E0	P001	–	–	–
2402	PROPANETHIOLS	3	–	II	–	1 L	E2	P001	–	IBC02	–
2403	ISOPROPENYL ACETATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2404	PROPIONITRILE	3	6.1	II	–	1 L	E0	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint (pure product): –21°C c.c. Lower explosive limit: 1.7%. Immiscible with water.	2384
–	T4	TP1	F-E, S-D	Category B	–	Colourless, volatile liquid with an aromatic odour. Flashpoint: 21°C c.c. Immiscible with water.	2385
–	T7	TP1	F-E, S-C	Category B	SGG18 SG35	Colourless liquid. Flashpoint: 19°C c.c. Immiscible with water. Reacts violently with acids. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes. May cause lung damage.	2386
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquid with a benzene odour. Flashpoint: –15°C c.c. Immiscible with water. Harmful by inhalation.	2387
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquids. <i>ortho</i> -FLUOROTOLUENE: flashpoint 9°C c.c. <i>meta</i> -FLUOROTOLUENE: flashpoint 12°C c.c. <i>para</i> -FLUOROTOLUENE: flashpoint 10°C c.c. Immiscible with water.	2388
–	T12	TP2 TP13	F-E, S-D	Category E SW2	–	Colourless liquid with a strong odour. Flashpoint: below –18°C c.c. Explosive limits: 1.3% to 14.3%. Boiling point: 31°C. Immiscible with water. Harmful if swallowed, by skin contact or by inhalation.	2389
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquid. Flashpoint: 21°C c.c. Immiscible with water.	2390
–	T4	TP1	F-E, S-D	Category B	SGG10	Colourless liquids. Immiscible with water.	2391
–	T2	TP1	F-E, S-D	Category A	SGG10	Colourless liquids. 1-IODOPROPANE: flashpoint 34°C c.c. 2-IODOPROPANE: flashpoint approx. 25°C c.c. Immiscible with water.	2392
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 5°C c.c. Explosive limits: 1.7% to 8%. Irritating to skin, eyes and mucous membranes.	2393
–	T2	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 31°C c.c. Immiscible with water.	2394
–	T7	TP2	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2395
–	T7	TP1 TP13	F-E, S-D	Category D SW1 SW2	–	Colourless liquid. Flashpoint: 2°C c.c. Miscible with water. Toxic by inhalation. Irritating to skin, eyes and mucous membranes.	2396
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –3°C c.c. Explosive limits: 1.5% to 8%. Immiscible with water.	2397
–	T7	TP1	F-E, S-D	Category E	–	Colourless liquid. Flashpoint: below –18°C c.c. Explosive limits: 1.7% to 8.4%. Boiling point: 55°C. Immiscible with water.	2398
–	T7	TP1	F-E, S-C	Category B	SGG18 SG35	Colourless liquid. Flashpoint: 3°C c.c. Miscible with water. Reacts violently with acids. Harmful by inhalation. Causes burns to skin, eyes and mucous membranes.	2399
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Immiscible with water.	2400
–	T10	TP2	F-E, S-C	Category D	SGG18 SG35	Colourless liquid with a fish-like odour. Miscible with water. Reacts violently with acids. Solution in water is a strong alkali and is corrosive. When involved in fire, evolves toxic nitrous fumes.	2401
–	T4	TP1 TP13	F-E, S-D	Category E	SG50 SG57	Colourless or yellowish liquids with a strong unpleasant odour. Flashpoint: below –18°C c.c. Boiling range: 53°C to 67°C. Immiscible with water.	2402
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 10°C c.c. Immiscible with water.	2403
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless, volatile liquid with an ether-like odour. Flashpoint: 2°C c.c. Lower explosive limit: 3.1%. Miscible with water. When involved in a fire, evolves highly toxic cyanide fumes. Toxic if swallowed, by skin contact or by inhalation.	2404

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2405	ISOPROPYL BUTYRATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2406	ISOPROPYL ISOBUTYRATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2407	ISOPROPYL CHLOROFORMATE	6.1	3/8	I	354	0	E0	P602	–	–	–
2409	ISOPROPYL PROPIONATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2410	1,2,3,6-TETRAHYDROPYRIDINE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2411	BUTYRONITRILE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2412	TETRAHYDROTHIOPHENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2413	TETRAPROPYL ORTHOTITANATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2414	THIOPHENE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2416	TRIMETHYL BORATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2417	CARBONYL FLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2418	SULPHUR TETRAFLUORIDE	2.3	8	–	–	0	E0	P200	–	–	–
2419	BROMOTRIFLUOROETHYLENE	2.1	–	–	–	0	E0	P200	–	–	–
2420	HEXAFLUOROACETONE	2.3	8	–	–	0	E0	P200	–	–	–
2421	NITROGEN TRIOXIDE	2.3	5.1/8	–	–	0	E0	P200	–	–	–
2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)	2.2	–	–	–	120 mL	E1	P200	–	–	–
2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	2.2	–	–	–	120 mL	E1	P200	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions  (14) 4.2.5					
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 25°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2405
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 20°C c.c. Immiscible with water. Narcotic. Irritating to skin, eyes and mucous membranes.	2406
–	–	–	F-E, S-C	Category D SW2	SGG1 SG5 SG8 SG36 SG49	Colourless flammable liquid. Flashpoint: 16°C c.c. Decomposed by water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2407
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 21°C c.c. Immiscible with water.	2409
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 16°C c.c. Miscible with water. Harmful by inhalation.	2410
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless liquid. Flashpoint: 21°C c.c. Lower explosive limit: 1.6%. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2411
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid with a pleasant odour. Flashpoint: 13°C c.c. Immiscible with water.	2412
–	T4	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 38°C c.c.	2413
–	T4	TP1	F-E, S-D	Category B SW2	–	Colourless liquid with an unpleasant odour. Flashpoint: –9°C c.c. Explosive limits: 1.5% to 12.5%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2414
–	T7	TP1	F-E, S-D	Category B	–	Colourless liquid. Reacts with water, evolving flammable vapours.	2416
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive colourless gas with a pungent odour. Corrosive to glass and to most metals. Corrosive in the presence of water. Much heavier than air (2.3). Highly irritating to skin, eyes and mucous membranes.	2417
–	–	–	F-C, S-U	Category D SW2	SG35	Non-flammable, toxic and corrosive, colourless gas with a pungent odour. Reacts with water, moist air or acids to produce toxic and corrosive fumes. Corrosive to glass and to most metals. Much heavier than air (3.7). Highly irritating to skin, eyes and mucous membranes.	2418
–	–	–	F-D, S-U	Category B SW2	–	Liquefied, flammable, colourless gas. Much heavier than air (5.6). Boiling point: –3°C.	2419
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive, colourless, hygroscopic gas with an unpleasant odour. Reacts vigorously with water, evolving heat. Corrosive to glass and to most metals. Fumes in moist air. Much heavier than air (5.7). Highly irritating to skin, eyes and mucous membranes.	2420
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Liquefied, non-flammable, toxic and corrosive gas. At lower temperatures, present as a blue liquid. Strong oxidizing agent. Much heavier than air (2.6). Boiling point: 3.5°C. Highly irritating to skin, eyes and mucous membranes.	2421
–	–	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas. Much heavier than air (6.9). Boiling point: 1.2°C.	2422
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas. Much heavier than air (6.6). Boiling point: –36°C.	2424

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2426	AMMONIUM NITRATE, LIQUID (hot concentrated solution)	5.1	–	–	252 942	0	E0	–	–	–	–
2427	POTASSIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	II	–	1 L	E2	P504	–	IBC02	–
2427	POTASSIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	III	223	5 L	E1	P504	–	IBC02	–
2428	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	II	–	1 L	E2	P504	–	IBC02	–
2428	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	III	223	5 L	E1	P504	–	IBC02	–
2429	CALCIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	II	–	1 L	E2	P504	–	IBC02	–
2429	CALCIUM CHLORATE, AQUEOUS SOLUTION	5.1	–	III	223	5 L	E1	P504	–	IBC02	–
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	I	–	0	E0	P002	–	IBC07	B1
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
2431	ANISIDINES	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP1 TP16 TP17	F-H, S-Q	Category D	SGG2 SG42 SG45 SG47 SG48 SG51 SG56 SG58 SG59 SG61	Hot aqueous solution of not more than 93% ammonium nitrate with not more than 0.2% combustible material (including organic material calculated as carbon) and free from any other added matter, containing at least 7% water, while the maximum content of chloride ions should not exceed 0.02%. May cause fire and explosion in contact with combustible material (e.g. wood, straw, cotton, oil, sugar, etc.), strong acids, and other class 5.1 substances and burn fiercely. Maximum allowable transport temperature of the solution 140°C. This temperature should be indicated on the transport unit. The acidity (pH) of the cargo when diluted with ten parts of water to one part of cargo, by mass, should be between 5.0 and 7.0. The concentration and temperature of the solution at the time of loading, its percentage of combustible materials and of chlorides, and the contents of free acid should be certified.	2426
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	Colourless liquid. When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	2427
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	See entry above.	2427
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	Colourless liquid. When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	2428
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	See entry above.	2428
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	Colourless liquid. When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	2429
–	T4	TP1	F-H, S-Q	Category B	SGG4 SG38 SG49 SG62	See entry above.	2429
–	T6	TP33	F-A, S-B	Category B	–	A wide range of colourless to pale straw-coloured solids with penetrating odours (sometimes camphor-like). Some have low melting points. Insoluble in water. Cause burns to skin, eyes and mucous membranes.	2430
–	T3	TP33	F-A, S-B	Category B	–	See entry above.	2430
–	T1	TP33	F-A, S-B	Category A	–	See entry above.	2430
–	T4	TP1	F-A, S-A	Category A	–	Reddish or yellowish oily liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2431



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2432	N,N-DIETHYLANILINE	6.1	–	III	279	5 L	E1	P001 LP01	–	IBC03	–
2433	CHLORONITROTOLUENES, LIQUID	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2434	DIBENZYLDICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
2435	ETHYLPHENYL-DICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
2436	THIOACETIC ACID	3	–	II	–	1 L	E2	P001	–	IBC02	–
2437	METHYLPHENYL-DICHLOROSILANE	8	–	II	–	0	E0	P010	–	–	–
2438	TRIMETHYLACETYL CHLORIDE	6.1	3/8	I	–	0	E0	P001	–	–	–
2439	SODIUM HYDROGENDIFLUORIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2440	STANNIC CHLORIDE PENTAHYDRATE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2441	TITANIUM TRICHLORIDE, PYROPHORIC or TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC	4.2	8	I	–	0	E0	P404	PP31	–	–
2442	TRICHLOROACETYL CHLORIDE	8	–	II	–	0	E0	P001	–	–	–
2443	VANADIUM OXYTRICHLORIDE	8	–	II	–	1 L	E0	P001	–	IBC02	–
2444	VANADIUM TETRACHLORIDE	8	–	I	–	0	E0	P802	–	–	–
2446	NITROCRESOLS, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-A, S-A	Category A	–	Colourless to yellow-brown oily liquid. Combustible. Toxic if swallowed, by skin contact or by inhalation.	2432
–	T4	TP1	F-A, <u>S-A</u>	Category A	SG6 SG8 SG10 SG12	Immiscible with water. Oxidizing substance which may explode or burn fiercely when in contact with organic materials. Toxic if swallowed, by skin contact or by inhalation.	2433
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapour irritating to skin, eyes and mucous membranes.	2434
–	T10	TP2 TP7 TP13	F-A, S-B	Category C	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2435
–	T4	TP1	F-E, S-D	Category B	–	Colourless or yellow liquid with a pungent odour. Miscible with water. Harmful by inhalation.	2436
–	T10	TP2 TP7 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2437
–	T14	TP2 TP13	F-E, S-C	Category D SW1 SW2	SGG1 SG5 SG8 SG36 SG49	Flammable liquid. Flashpoint: 19°C c.c. Boiling point: 108°C. Reacts with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2438
–	T3	TP33	F-A, S-B	Category A SW1 SW2 H2	SGG1 SG35 SG36 SG49	White, crystalline powder. Soluble in water. Decomposed by heat or acids, evolving hydrogen fluoride, a toxic extremely irritating and corrosive gas. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Causes burns to skin, eyes and mucous membranes.	2439
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White, deliquescent solid. Melting point: about 60°C. Soluble in water. In the presence of water, corrosive to most metals. Irritating to skin, eyes and mucous membranes.	2440
–	–	–	F-G, S-M	Category D SW2 H1	SGG7 SG26	Finely divided, violet, crystalline solid. May ignite on exposure to air or moisture. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2441
–	T7	TP2	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Liquid with a pungent odour, which fumes in moist air. Reacts violently with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. When involved in a fire, evolves toxic gases. In the presence of moisture, corrosive to most metals. Liquid and vapours cause burns to skin, eyes and mucous membranes.	2442
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Yellow liquid. Decomposition occurs on exposure to moist air, forming red fumes of vanadic acid and hydrogen chloride, a corrosive gas apparent as white fumes. Reacts with, or dissolves, many organic compounds. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2443
–	T10	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Reddish-brown liquid. Decomposes under the influence of light, evolving chlorine, a highly toxic and irritating gas. Reacts violently with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Liquid and vapours cause burns to skin, eyes and mucous membranes.	2444
–	T1	TP33	F-A, S-A	Category A	–	Yellow crystals. Melting point: 32°C or above. Slightly soluble in water. Toxic if swallowed, by skin contact or by inhalation.	2446

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2447	PHOSPHORUS, WHITE, MOLTEN	4.2	6.1 P	I	–	0	E0	–	–	–	–
2448	SULPHUR, MOLTEN	4.1	–	III	–	0	E0	–	–	IBC01	–
2451	NITROGEN TRIFLUORIDE	2.2	5.1	–	–	0	E0	P200	–	–	–
2452	ETHYLACETYLENE, STABILIZED	2.1	–	–	386	0	E0	P200	–	–	–
2453	ETHYL FLUORIDE (REFRIGERANT GAS R 161)	2.1	–	–	–	0	E0	P200	–	–	–
2454	METHYL FLUORIDE (REFRIGERANT GAS R 41)	2.1	–	–	–	0	E0	P200	–	–	–
2455	METHYL NITRITE	2.2	–	–	900	–	–	–	–	–	–
2456	2-CHLOROPROPENE	3	–	I	–	0	E3	P001	–	–	–
2457	2,3-DIMETHYLBUTANE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2458	HEXADIENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2459	2-METHYL-1-BUTENE	3	–	I	–	0	E3	P001	–	–	–
2460	2-METHYL-2-BUTENE	3	–	II	–	1 L	E2	P001	–	IBC02	B8
2461	METHYLPENTADIENES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2463	ALUMINIUM HYDRIDE	4.3	–	I	–	0	E0	P403	PP31	–	–
2464	BERYLLIUM NITRATE	5.1	6.1	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2465	DICHLOROISOCYANURIC ACID, DRY or DICHLOROISOCYANURIC ACID SALTS	5.1	–	II	135	1 kg	E2	P002	–	IBC08	B4 B21
2466	POTASSIUM SUPEROXIDE	5.1	–	I	–	0	E0	P503	–	IBC06	B1

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T21	TP3 TP7 TP26	F-A, S-M	Category D	–	Molten liquid. Melting point: 44°C. Ignites spontaneously in air. Toxic if swallowed, by skin contact or by inhalation. Shipped molten above its melting point.	2447
–	T1	TP3	F-A, S-H	Category C	SG17	Melting point: 119°C. Molten sulphur may contain hydrogen sulphide, which is highly poisonous in low concentrations. When involved in a fire, evolves toxic, very irritating and suffocating gas. Forms explosive and extremely sensitive mixtures with oxidizing substances. Shipped molten above its melting point.	2448
–	–	–	F-C, S-W	Category D SW2	–	Non-flammable, non-toxic, colourless, odourless gas. Strong oxidizing agent; reacts violently with many substances, e.g. grease, oil, etc. Much heavier than air (2.4). May cause slight eye irritation.	2451
–	–	–	F-D, S-U	Category B SW1 SW2	–	Liquefied, flammable, colourless gas with an odour similar to acetylene. Heavier than air (1.9). Boiling point: 8°C. Irritating to skin, eyes and mucous membranes.	2452
–	–	–	F-D, S-U	Category E SW2	–	Liquefied, flammable, colourless gas. Explosive limits: 5% to 10%. Heavier than air (1.7). Boiling point: –37°C.	2453
–	–	–	F-D, S-U	Category E SW2	–	Flammable, colourless gas. Heavier than air (1.2).	2454
–	–	–	–	–	–	Transport is prohibited.	2455
–	T11	TP2	F-E, S-D	Category E	SGG10	Colourless liquid. Flashpoint: below –18°C c.c. Explosive limits: 2.5% to 12%. Boiling point: 23°C. Immiscible with water. Harmful if swallowed or by inhalation. Irritating to skin, eyes and mucous membranes.	2456
–	T7	TP1	F-E, S-D	Category E	–	Colourless liquid. Flashpoint: –29°C c.c. Explosive limits: 1.2% to 7%. Immiscible with water. Irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.	2457
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids. 1,3-HEXADIENE: flashpoint –3°C c.c. 1,4-HEXADIENE: flashpoint –25°C c.c. 1,5-HEXADIENE: flashpoint –27°C c.c. 2,4-HEXADIENE: flashpoint –7°C c.c. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2458
–	T11	TP2	F-E, S-D	Category E	–	Colourless, volatile liquid with a disagreeable odour. Flashpoint: below –18°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2459
–	T7	TP1	F-E, S-D	Category E	–	Colourless, volatile liquid with a disagreeable odour. Flashpoint: below –18°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2460
–	T4	TP1	F-E, S-D	Category E	–	Colourless liquids. Flashpoint: below –18°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2461
–	–	–	F-G, S-O	Category E H1	SG26	White to grey powder. In contact with water, acids or moisture, evolves hydrogen, which may be ignited by the heat of the reaction.	2463
–	T3	TP33	F-A, S-Q	Category A	–	White or light yellow deliquescent crystals, or fine dust. Mixtures with combustible material are readily ignited and may burn fiercely. Toxic if swallowed, by skin contact or by dust inhalation.	2464
–	T3	TP33	F-A, S-Q	Category A H1	–	White crystalline powder or granules; slightly hygroscopic. Partially soluble in water. Mixtures with combustible material are sensitive to friction and are liable to ignite. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2465
–	–	–	F-G, S-Q	Category D H1	SGG16 SG16 SG26 SG35 SG59	Yellow flakes. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite, following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Highly irritating to skin, eyes and mucous membranes.	2466



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2468	TRICHLOROISOCYANURIC ACID, DRY	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2469	ZINC BROMATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2470	PHENYLACETONITRILE, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2471	OSMIUM TETROXIDE	6.1	– P	I	–	0	E5	P002	PP30 PP31	IBC07	B1
2473	SODIUM ARSANILATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
△ 2474	THIOPHOSGENE	6.1	–	I	279 354	0	E0	P602	–	–	–
2475	VANADIUM TRICHLORIDE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
△ 2477	METHYL ISOTHIOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
2478	ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	274	1 L	E2	P001	PP31	IBC02	–
2478	ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.	3	6.1	III	223 274	5 L	E1	P001	PP31	IBC03	–
2480	METHYL ISOCYANATE	6.1	3	I	354	0	E0	P601	–	–	–
△ 2481	ETHYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2482	<i>n</i> -PROPYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2483	ISOPROPYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-Q	Category A H1	–	Colourless powder or granules. Mixtures with combustible material are sensitive to friction and are liable to ignite. On contact with nitrogen compounds, fumes of nitrogen trichloride can be formed, which are very explosive. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2468
–	T1	TP33	F-H, S-Q	Category A	SGG3 SGG7 SG38 SG49	Colourless powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	2469
–	T4	TP1	F-A, S-A	Category A	SG35	Colourless to light brown liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2470
–	T6	TP33	F-A, <u>S-A</u>	Category B SW2	–	Pale yellow, crystalline, volatile solid with an irritating odour. Highly toxic if swallowed, by skin contact or by inhalation.	2471
–	T1	TP33	F-A, S-A	Category A	–	White, crystalline powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2473
–	T20	TP2 TP13	F-A, S-A	Category D SW2	SG35	Red fuming liquid with a foul phosgene-like odour. Decomposes slowly in water. Reacts with acids, evolving toxic and corrosive fumes. Highly toxic if swallowed, by skin contact or by inhalation.	2474
–	T1	TP33	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Pink, deliquescent crystals. Decomposes in water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Irritating to skin, eyes and mucous membranes.	2475
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	White crystals. Usually shipped as an oily liquid with a flashpoint below 60°C c.c. Melting point: 36°C (pure substance). Flashpoint: 32°C c.c. (pure substance). Insoluble in water. When involved in a fire, evolves toxic gases. Highly toxic if swallowed, by skin contact or by inhalation.	2477
–	T11	TP2 TP13 TP27	F-E, S-D	Category D SW2	–	Flammable toxic liquids with a pungent odour. Immiscible with water but react with it to form carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2478
–	T7	TP1 TP13 TP28	F-E, S-D	Category A	–	See entry above.	2478
–	T22	TP2 TP13	F-E, S-D	Category D SW2	SG35	Flammable liquid with a pungent odour. Flashpoint: –7°C c.c. (pure product). Boiling point: 38°C (pure product). Vapour heavier than air. Immiscible with water but reacts violently with it. In contact with water or acids, evolves highly toxic nitrous fumes. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2480
–	T20	TP2 TP13	F-E, S-D	Category D SW2	SG35	Liquid with a pungent odour. Flashpoint: –18°C to 0°C c.c. Boiling point: 60°C. Immiscible with water but reacts violently with it. On contact with water or acids, or when heated above boiling point, evolves highly toxic nitrous fumes. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2481
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Flammable liquid with a pungent odour. Immiscible with water but reacts violently with it, evolving gases. Flashpoint: –18°C to 23°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2482
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Liquid with a pungent odour. Flashpoint: –10°C to 0°C c.c. Immiscible with water but reacts violently with it, evolving gases. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2483

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 2484	tert-BUTYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2485	n-BUTYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2486	ISOBUTYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2487	PHENYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2488	CYCLOHEXYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
2490	DICHLOROISOPROPYL ETHER	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2491	ETHANOLAMINE or ETHANOLAMINE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2493	HEXAMETHYLENEIMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2495	IODINE PENTAFLUORIDE	5.1	6.1/8	I	–	0	E0	P200	–	–	–
2496	PROPIONIC ANHYDRIDE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2498	1,2,3,6-TETRAHYDRO-BENZALDEHYDE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2501	TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2501	TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2502	VALERYL CHLORIDE	8	3	II	–	1 L	E2	P001	–	IBC02	–
2503	ZIRCONIUM TETRACHLORIDE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2504	TETRABROMOETHANE	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless liquid with a pungent odour. Immiscible with water but reacts violently with it, evolving gases. Flashpoint: 11°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2484
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless liquid with a pungent odour. Immiscible with water but reacts violently with it, evolving gases. Flashpoint: 19°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2485
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Liquid with a pungent odour. Immiscible with water but reacts violently with it, evolving gases. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2486
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless to yellowish liquid with a pungent odour. Flashpoint: 51°C c.c. Immiscible with water. Reacts with water, evolving carbon dioxide. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2487
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Yellowish liquid with an irritating odour. Flashpoint: 53°C c.c. Immiscible with water. Reacts with water, evolving carbon dioxide. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2488
–	T7	TP2	F-A, S-A	Category B	–	Colourless liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2490
–	T4	TP1	F-A, S-B	Category A	SGG18 SG35	Colourless. Miscible with water. Corrosive to copper, copper compounds, copper alloys and rubber. Reacts violently with acids. Liquid and vapour cause burns to skin, eyes and mucous membranes.	2491
–	T7	TP1	F-E, S-C	Category B SW2	–	Yellowish liquid with an ammoniacal odour. Flashpoint: 18°C c.c. Miscible with water. Harmful by inhalation. Absorbed through the skin. Causes burns to skin, eyes and mucous membranes.	2493
–	–	–	F-A, S-Q	Category D SW1 SW2	SGG1 SG6 SG16 SG19 SG35 SG36 SG49	Colourless, fuming liquid (density 3.75). Powerful oxidant; may cause fire in contact with organic material such as wood, cotton or straw. Reacts violently with water, evolving hydrogen fluoride, a toxic, extremely corrosive gas apparent as white fumes. In contact with acids or acid fumes, evolves highly toxic fumes of iodine, fluorine and their compounds. Highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2495
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless, combustible liquid with a pungent odour. Reacts with water, forming propionic acid. Corrosive to skin, eyes and mucous membranes.	2496
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 57°C o.c. Immiscible with water.	2498
–	T7	TP2	F-A, S-A	Category A	–	Aqueous solution. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2501
–	T4	TP1	F-A, S-A	Category A	–	See entry above.	2501
–	T7	TP2	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Liquid with a penetrating odour. Flashpoint: 23°C c.c. or above. Reacts with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2502
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White, lustrous crystals. Reacts with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Irritating to mucous membranes.	2503
–	T4	TP1	F-A, <u>S-A</u>	Category A	SGG10	Colourless to yellowish liquid with a camphor-like odour. Toxic if swallowed, by skin contact or by inhalation.	2504

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2505	AMMONIUM FLUORIDE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2506	AMMONIUM HYDROGEN SULPHATE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2507	CHLOROPLATINIC ACID, SOLID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2508	MOLYBDENUM PENTACHLORIDE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2509	POTASSIUM HYDROGEN SULPHATE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2511	2-CHLOROPROPIONIC ACID	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2512	AMINOPHENOLS ( <i>o</i> -, <i>m</i> -, <i>p</i> -)	6.1	–	III	279	5 kg	E1	P002 LP02	–	IBC08	B3
2513	BROMOACETYL BROMIDE	8	–	II	–	1 L	E2	P001	–	IBC02	B20
2514	BROMOBENZENE	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2515	BROMOFORM	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2516	CARBON TETRABROMIDE	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2517	1-CHLORO-1,1-DIFLUORO-ETHANE (REFRIGERANT GAS R 142b)	2.1	–	–	–	0	E0	P200	–	–	–
2518	1,5,9-CYCLODODECATRIENE	6.1	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2520	CYCLOOCTADIENES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
△ 2521	DIKETENE, STABILIZED	6.1	3	I	354 386	0	E0	P602	–	–	–
△ 2522	2-DIMETHYLAMINOETHYL METHACRYLATE, STABILIZED	6.1	–	II	386	100 mL	E4	P001	–	IBC02	–
2524	ETHYL ORTHOFORMATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-A	Category A	SGG2 SG35	Colourless crystals or powder with an ammonia-like odour. Readily soluble in water. Decomposes in contact with acids, evolving hydrogen fluoride, a corrosive gas. Toxic if swallowed, by skin contact or by dust inhalation.	2505
–	T3	TP33	F-A, S-B	Category A SW2	SGG1 SGG2 SG36 SG49	White, rhombic crystals. Soluble in water. When involved in a fire, evolves extremely irritating and corrosive fumes. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2506
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Red-brown crystals. Soluble in water.	2507
–	T1	TP33	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Black or green-black crystals. Hygroscopic. Reacts violently with water, evolving hydrogen chloride, a corrosive gas apparent as white fumes. Harmful if swallowed. Dust and vapour irritate skin, eyes and mucous membranes.	2508
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless crystals. Soluble in water. When involved in a fire, evolves extremely irritating and corrosive fumes. In the presence of moisture, corrosive to most metals. Irritating to skin, eyes and mucous membranes.	2509
–	T4	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless, aqueous solution with a specific odour. Causes burns to skin, eyes and mucous membranes.	2511
–	T1	TP33	F-A, S-A	Category A	–	White or brownish ( <i>ortho</i> - and <i>para</i> -) or reddish-yellow ( <i>meta</i> -) crystals. Soluble in water. Toxic if swallowed, by skin contact or by inhalation.	2512
–	T8	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Clear liquid, colourless. Boiling point: 150°C. Reacts violently with water, evolving hydrogen bromide, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Reacts violently with alkalis such as ammonia and hydrazine. Causes very severe burns to skin, eyes and mucous membranes. Vapour causes tears.	2513
–	T2	TP1	F-E, <u>S-D</u>	Category A	–	Colourless liquid with a characteristic odour. Flashpoint: 51°C c.c. Explosive limits: 0.5% to 2.8%. Immiscible with water.	2514
–	T4	TP1	F-A, <u>S-A</u>	Category A SW1 SW2 H2	SGG10	Colourless liquid or crystals (melting point 9°C) with a chloroform-like odour. Toxic if swallowed, by skin contact or by inhalation. Narcotic effect.	2515
–	T1	TP33	F-A, <u>S-A</u>	Category A SW1	–	Colourless crystals. Melting point: 48°C. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation of dust and vapour.	2516
–	T50	–	F-D, S-U	Category B SW2	–	Flammable gas. Explosive limits: 8.5% to 14%. Much heavier than air (3.5).	2517
–	T4	TP1	F-A, <u>S-A</u>	Category A SW2	–	Colourless liquid. Toxic if swallowed, by skin contact or by inhalation.	2518
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Immiscible with water. 1,5-CYCLOOCTADIENE: flashpoint 38°C c.c. Irritating to skin, eyes and mucous membranes.	2520
–	T20	TP2 TP13	F-E, S-D	Category D SW1 SW2	SG20 SG21	Colourless flammable liquid with a pungent odour. Flashpoint: 44°C c.c. Immiscible with water, but hydrolyses slowly in contact with it. The presence of acids, bases or amines can initiate explosive polymerization. Highly toxic if swallowed, by skin contact or by inhalation.	2521
–	T7	TP2	F-A, S-A	Category D SW2	–	Combustible liquid. Causes tears. Toxic if swallowed, by skin contact or by inhalation.	2522
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with an ethereal odour. Flashpoint: 30°C c.c. Immiscible with water.	2524

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2525	ETHYL OXALATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2526	FURFURYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2527	ISOBUTYL ACRYLATE, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
2528	ISOBUTYL ISOBUTYRATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2529	ISOBUTYRIC ACID	3	8	III	–	5 L	E1	P001	–	IBC03	–
2531	METHACRYLIC ACID, STABILIZED	8	–	II	386	1 L	E2	P001	–	IBC02	–
2533	METHYL TRICHLOROACETATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2534	METHYLCHLOROSILANE	2.3	2.1/8	–	–	0	E0	P200	–	–	–
2535	4-METHYLMORPHOLINE (N-METHYLMORPHOLINE)	3	8	II	–	1 L	E2	P001	–	IBC02	–
2536	METHYLTETRAHYDROFURAN	3	–	II	–	1 L	E2	P001	–	IBC02	–
2538	NITRONAPHTHALENE	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2541	TERPINOLENE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2542	TRIBUTYLAMINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2545	HAFNIUM POWDER, DRY	4.2	–	I	–	0	E0	P404	PP31	–	–
2545	HAFNIUM POWDER, DRY	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
2545	HAFNIUM POWDER, DRY	4.2	–	III	223	0	E1	P002 LP02	PP31 L4	IBC08	B4
2546	TITANIUM POWDER, DRY	4.2	–	I	–	0	E0	P404	PP31	–	–
2546	TITANIUM POWDER, DRY	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
2546	TITANIUM POWDER, DRY	4.2	–	III	223	0	E1	P002 LP02	PP31 L4	IBC08	B4

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1	F-A, S-A	Category A	–	Colourless, oily, aromatic liquid. Slowly decomposed by water. Toxic if swallowed, by skin contact or by dust inhalation.	2525
–	T4	TP1	F-E, S-C	Category A SW2	SG35	Pale yellow, oily liquid. Flashpoint: 37°C o.c. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2526
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless liquid with a pungent odour. Flashpoint: 29°C o.c. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2527
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a fruity odour. Flashpoint: 37°C c.c. Explosive limits: 0.96% to 7.59%. Immiscible with water.	2528
–	T4	TP1	F-E, S-C	Category A	–	Colourless liquid with a pungent odour. Flashpoint: 55°C c.c. Explosive limits: 2% to 9.2%. Miscible with water. Causes burns to skin and eyes. Irritating to skin, eyes and mucous membranes.	2529
–	T7	TP2 TP18 TP30	F-A, S-B	Category C SW1 SW2	SGG1 SG36 SG49	Colourless, combustible liquid with a specific odour. Miscible with water. Polymerizes readily above its melting point (15°C), thereby generating heat and possible risk of explosion; should therefore be properly stabilized. Cooling below melting point (15°C) followed by subsequent reheating can release uninhibited monomer that readily polymerizes. Decomposes when heated, evolving toxic gases. Causes burns to skin, eyes and mucous membranes.	2531
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2533
–	–	–	F-D, S-U	Category D SW2	SG4 SG9	Liquefied, flammable, toxic and corrosive colourless gas with a pungent odour. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas. Heavier than air. Boiling point: 9°C. Highly irritating to skin, eyes and mucous membranes.	2534
–	T7	TP1	F-E, S-C	Category B SW2	–	Colourless liquid with an ammonia-like odour. Flashpoint: 13°C c.c. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2535
–	T4	TP1	F-E, S-D	Category B	–	Colourless, volatile liquid with an ether-like odour. Flashpoint: –11°C o.c. Immiscible with water.	2536
–	T1	TP33	F-A, S-G	Category A	–	Yellow crystals. Insoluble in water. Harmful if swallowed.	2538
–	T2	TP1	F-E, S-E	Category A	–	Colourless to pale amber liquid with a lemon odour. Flashpoint: 37°C c.c. Immiscible with water.	2541
–	T7	TP2	F-A, S-A	Category A	–	Colourless, combustible liquid with an amine odour. Immiscible with water. When involved in a fire, evolves toxic gases. Toxic if swallowed, by skin contact or by inhalation.	2542
–	–	–	F-G, S-M	Category D H1	SGG15 SG26	Black amorphous powder. Insoluble in water. Liable to ignite spontaneously in air. Forms explosive mixtures with oxidizing substances.	2545
–	T3	TP33	F-G, S-M	Category D H1	SGG15 SG26	See entry above.	2545
–	T1	TP33	F-G, S-M	Category D H1	SGG15 SG26	See entry above.	2545
–	–	–	F-G, S-M	Category D H1	SGG7 SGG15 SG26	Grey powder. Liable to ignite spontaneously in air. Forms explosive mixtures with oxidizing substances.	2546
–	T3	TP33	F-G, S-M	Category D H1	SGG7 SGG15 SG26	See entry above.	2546
–	T1	TP33	F-G, S-M	Category D H1	SGG7 SGG15 SG26	See entry above.	2546



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2547	SODIUM SUPEROXIDE	5.1	–	I	–	0	E0	P503	–	IBC06	B1
2548	CHLORINE PENTAFLUORIDE	2.3	5.1/8	–	–	0	E0	P200	–	–	–
2552	HEXAFLUOROACETONE HYDRATE, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2554	METHYLALLYL CHLORIDE	3	–	II	–	1 L	E2	P001	–	IBC02	–
△ 2555	NITROCELLULOSE WITH WATER (not less than 25% water, by mass)	4.1	–	II	28 394	0	E0	P406	PP31	–	–
△ 2556	NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)	4.1	–	II	28 394	0	E0	P406	PP31	–	–
△ 2557	NITROCELLULOSE with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICIZER, WITH or WITHOUT PIGMENT	4.1	–	II	241 394	0	E0	P406	PP31	–	–
2558	EPIBROMOHYDRIN	6.1	3 P	I	–	0	E0	P001	–	–	–
2560	2-METHYLPENTAN-2-OL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2561	3-METHYL-1-BUTENE	3	–	I	–	0	E3	P001	–	–	–
2564	TRICHLOROACETIC ACID SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
2564	TRICHLOROACETIC ACID SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2565	DICYCLOHEXYLAMINE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2567	SODIUM PENTACHLOROPHENATE	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-G, S-Q	Category D H1	SGG16 SG16 SG26 SG35 SG59	Pale yellow coarse powder or granules. Particularly if wetted with small quantities of water, a mixture with combustible material may ignite, following impact or friction. When involved in a fire, or in contact with water or acids, decomposes, evolving oxygen. Highly irritating to skin, eyes and mucous membranes.	2547
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive gas. Forms dense, white, corrosive fumes in moist air. Reacts violently with water, evolving hydrogen fluoride, a toxic, irritating and corrosive gas apparent as white fumes. Corrosive to glass and to most metals. Powerful oxidizing agent which may cause violent fires with combustible materials. Much heavier than air (4.5). Highly irritating to skin, eyes and mucous membranes.	2548
–	T7	TP2	F-A, S-A	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation.	2552
–	T4	TP1 TP13	F-E, S-D	Category E	SGG10	Colourless to yellowish, volatile liquid with a penetrating odour. Flashpoint: –12°C c.c. Explosive limits: 2.3% to 9.3%. Immiscible with water. When involved in a fire, may evolve highly toxic phosgene gas. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2554
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Nitrocellulose may be granular or in flakes, blocks or fibrous form. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.	2555
–	–	–	F-B, S-J	Category D SW1 H2	SG7 SG30	Nitrocellulose may be granular or in flakes, blocks or fibrous form. In case of leakage, flammable vapours are evolved which, in closed compartments, may form explosive mixtures with air. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Highly explosive when dry. May form extremely sensitive compounds with heavy metals or their salts.	2556
–	–	–	F-B, S-J	Category D	SG7 SG30	Nitrocellulose may be in granular form or in flakes. This product may also contain added pigments. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Burns extremely rapidly with intense heat radiation. The formulation should be prepared so that it remains homogeneous and does not separate during transport. May form extremely sensitive compounds with heavy metals or their salts.	2557
–	T14	TP2 TP13	F-E, <u>S-D</u>	Category D SW2	–	Flammable liquid. Flashpoint: 56°C c.c. Highly toxic if swallowed, by skin contact or by inhalation.	2558
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 30°C c.c. Partially miscible with water. Irritating to skin, eyes and mucous membranes.	2560
–	T11	TP2	F-E, S-D	Category E	–	Colourless, volatile liquid with a disagreeable odour. Flashpoint: below –18°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2561
–	T7	TP2	F-A, S-B	Category B	SGG1 SG36 SG49	Colourless, clear solution with a pungent odour. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2564
–	T4	TP1	F-A, S-B	Category B	SGG1 SG36 SG49	See entry above.	2564
–	T4	TP1	F-A, S-B	Category A	SG35	Clear, colourless, combustible liquid with a fishy odour which may taint other cargoes. Immiscible with water. Causes burns to skin, eyes and mucous membranes.	2565
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	White or light brown powder with a pungent odour. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2567

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2570	CADMIUM COMPOUND	6.1	–	I	274	0	E5	P002	–	IBC07	B1
2570	CADMIUM COMPOUND	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
2570	CADMIUM COMPOUND	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2571	ALKYLSULPHURIC ACIDS	8	–	II	–	1 L	E2	P001	–	IBC02	–
2572	PHENYLHYDRAZINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2573	THALLIUM CHLORATE	5.1	6.1 P	II	–	1 kg	E2	P002	–	IBC06	B21
2574	TRICRESYL PHOSPHATE with more than 3% <i>ortho</i> -isomer	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
2576	PHOSPHORUS OXYBROMIDE, MOLTEN	8	–	II	–	0	E0	–	–	–	–
2577	PHENYLACETYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2578	PHOSPHORUS TRIOXIDE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2579	PIPERAZINE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2580	ALUMINIUM BROMIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2581	ALUMINIUM CHLORIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2582	FERRIC CHLORIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2583	ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T6	TP33	F-A, S-A	Category A	–	Powder or crystals with various colours. May be soluble or insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2570
–	T3	TP33	F-A, S-A	Category A	–	See entry above.	2570
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	2570
–	T8	TP2 TP13 TP28	F-A, S-B	Category C SW15	SGG1 SG36 SG49	Colourless oily liquids. React with water, evolving heat. Cause burns to skin, eyes and mucous membranes. Highly corrosive to metal.	2571
–	T7	TP2	F-A, S-A	Category A SW2	–	Pale yellow oily liquid. Melting point: 20°C. Slightly soluble in water. Toxic if swallowed, by skin contact or by inhalation.	2572
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Colourless crystals. Slightly soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	2573
–	T7	TP2	F-A, <u>S-A</u>	Category A	–	Colourless liquid. A mixture of isomers. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2574
–	T7	TP3 TP13	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Melting point: 56°C. Reacts violently with water, evolving hydrogen bromide, a toxic and corrosive gas apparent as white fumes. Reacts violently with organic materials (such as wood, cotton, straw), causing fire. When involved in a fire, evolves highly toxic and corrosive gases. In the presence of moisture, highly corrosive to most metals. Vapours and liquid cause burns to skin, eyes and mucous membranes. Shipped molten above its melting point.	2576
–	T7	TP2	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Reacts with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolves highly toxic fumes. Corrosive to most metals. Vapour irritates eyes and mucous membranes. Liquid is corrosive to skin, eyes and mucous membranes.	2577
–	T1	TP33	F-A, S-B	Category A SW1 H2	SGG1 SG36 SG49	Colourless crystals or white deliquescent powder. Melting point: 23°C. Reacts with water, evolving heat and at normal temperatures phosphoric acid, but at higher temperatures phosphine, a highly toxic gas. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2578
–	T1	TP33	F-A, S-B	Category A SW1 H2	SGG18 SG35	Colourless, deliquescent crystals, turning dark on exposure to light. Soluble in water. Decomposes when heated and when involved in a fire, evolving highly toxic nitrous fumes. The solution in water is a strong base and is highly corrosive. Reacts violently with acids. Irritating to skin, eyes and mucous membranes.	2579
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless to yellowish liquid. Highly corrosive to most metals. Vapour highly irritating to skin, eyes and mucous membranes. Liquid causes severe burns to skin, eyes and mucous membranes.	2580
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless to yellowish liquid. Highly corrosive to most metals. Vapour highly irritating to skin, eyes and mucous membranes. Liquid causes severe burns to skin, eyes and mucous membranes.	2581
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless to light brown liquid. Highly corrosive to most metals.	2582
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	When involved in a fire, evolve highly toxic gases. Corrosive to most metals, especially in the presence of moisture. Cause burns to skin, eyes and mucous membranes.	2583



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2584	ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid	8	–	II	–	1 L	E2	P001	–	IBC02	B20
2585	ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2586	ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2587	BENZOQUINONE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	–	I	61 274	0	E5	P002	–	IBC99	–
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2589	VINYL CHLOROACETATE	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–
2590	ASBESTOS, CHRYSOTILE	9	–	III	168	5 kg	E1	P002	PP37	IBC08	B3 B21
2591	XENON, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
2599	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane (REFRIGERANT GAS R 503)	2.2	–	–	–	120 mL	E1	P200	–	–	–
2601	CYCLOBUTANE	2.1	–	–	–	0	E0	P200	–	–	–
2602	DICHLORODIFLUORO-METHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R 500)	2.2	–	–	–	120 mL	E1	P200	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T8	TP2 TP13	F-A, S-B	Category B	SGG1 SG36 SG49	Liquids usually with a pungent odour. When involved in a fire, evolve highly toxic gases. Highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2584
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Crystalline solids. When involved in a fire, evolve highly toxic gases. In the presence of moisture, corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2585
–	T4	TP1	F-A, S-B	Category B	SGG1 SG36 SG49	Liquids usually with a pungent odour. When involved in a fire, evolve highly toxic gases. Corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2586
–	T3	TP33	F-A, S-A	Category A	–	Yellow crystals with an irritating and penetrating odour resembling that of chlorine. Slightly soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2587
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2588
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2588
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2588
–	T7	TP2	F-E, S-D	Category A	–	Flammable liquid. Flashpoint: 50°C c.c. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2589
–	T1	TP33	F-A, S-A	Category A SW2 H4	SG29	Mineral fibres of varying length. Non-combustible. Inhalation of the dust of asbestos fibres is dangerous and therefore exposure should be avoided at all times. Always prevent the generation of asbestos dust. A safe level of airborne concentration of asbestos fibres may be obtained through effective packing. Cargo spaces or freight containers that have contained any type of raw asbestos should be carefully cleaned before discharging any remaining cargo, loading other cargo or carrying out repair or maintenance work. Whenever possible, cleaning of cargo spaces should be carried out whilst the ship is in a port where proper facilities and equipment, including proper respiratory apparatus and protective clothing, are available. Parts of the body that may have been exposed should be immediately and thoroughly washed. All waste material should be collected in impermeable and sealed bags for safe disposal ashore. If cleaning cannot be carried out at the discharge port, arrangements should be made in advance for cleaning to be carried out at the next port where necessary facilities are available.	2590
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, inert, colourless and odourless gas. Much heavier than air (4.5).	2591
–	–	–	F-C, S-V	Category A	–	Non-flammable, colourless gas with a mild ethereal odour. Much heavier than air (3.2).	2599
–	–	–	F-D, S-U	Category B SW2	–	Liquefied, flammable, colourless gas. Explosive limits: 1.8% to 10%. Heavier than air (1.9). Boiling point: 13°C.	2601
–	T50	–	F-C, S-V	Category A	–	Non-flammable, colourless and odourless gas. Much heavier than air (3.7).	2602

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2603	CYCLOHEPTATRIENE	3	6.1	II	–	1 L	E2	P001	–	IBC02	–
2604	BORON TRIFLUORIDE DIETHYL ETHERATE	8	3	I	–	0	E0	P001	PP31	–	–
△ 2605	METHOXYMETHYL ISOCYANATE	6.1	3	I	354	0	E0	P602	–	–	–
△ 2606	METHYL ORTHOSILICATE	6.1	3	I	354	0	E0	P602	–	–	–
2607	ACROLEIN DIMER, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
2608	NITROPROPANES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2609	TRIALLYL BORATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2610	TRIALLYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2611	PROPYLENE CHLOROHYDRIN	6.1	3	II	–	100 mL	E4	P001	–	IBC02	–
2612	METHYL PROPYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	B8
2614	METHALLYL ALCOHOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2615	ETHYL PROPYL ETHER	3	–	II	–	1 L	E2	P001	–	IBC02	–
2616	TRIISOPROPYL BORATE	3	–	II	–	1 L	E2	P001	–	IBC02	–
2616	TRIISOPROPYL BORATE	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2617	METHYLCYCLOHEXANOLS, flammable	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2618	VINYLTOLUENES, STABILIZED	3	–	III	386	5 L	E1	P001 LP01	–	IBC03	–
2619	BENZYLDIMETHYLAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP1 TP13	F-E, S-D	Category E SW2	–	Colourless to dark yellow liquid with a characteristic odour. Flashpoint: 0°C to 4°C c.c. Immiscible with water. Reacts vigorously with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2603
–	T10	TP2	F-E, S-C	Category D SW2	SGG1 SG36 SG49	Colourless fuming flammable liquid. Flashpoint: 59°C c.c. The flashpoint will be lower when free ether is present. Reacts vigorously with oxidizing substances. Decomposes in contact with water, evolving toxic, corrosive and flammable vapours. Causes burns to skin, eyes and mucous membranes. Inhalation of small quantities of vapour can cause breathing difficulties.	2604
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless liquid with a pungent odour. Flashpoint: 13°C c.c. Immiscible with water. Highly toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	2605
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	Colourless, flammable liquid with an ethereal odour. Immiscible with water. Flashpoint: –18°C to 19°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. May cause blindness.	2606
–	T2	TP1	F-E, S-D	Category C SW1 SW2	–	Colourless liquid with a pungent odour. Flashpoint: 48°C o.c. Miscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2607
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Explosive limits: 2.2% to 11%. 1-NITROPROPANE: flashpoint approx. 33°C c.c. 2-NITROPROPANE: flashpoint approx. 28°C c.c. Partially miscible with water. Harmful by inhalation.	2608
–	–	–	F-A, S-A	Category A H1	–	Liquid. Hydrolyses in contact with water, forming allyl alcohol. Toxic if swallowed, by skin contact or by inhalation.	2609
–	T4	TP1	F-E, S-C	Category A SW2	SG35	Colourless liquid with a fishy odour. Flashpoint: 39°C o.c. Corrosive when in contact with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2610
–	T7	TP2 TP13	F-E, S-D	Category A SW1 SW2 H2	–	Colourless flammable liquid with a mild odour. Flashpoint: 51°C c.c. Miscible with water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by inhalation.	2611
–	T7	TP2	F-E, S-D	Category E SW2	–	Colourless, volatile liquid with an ethereal odour. Flashpoint: below –18°C c.c. Lower explosive limit: 2%. Boiling point: 39°C. Partially miscible with water. Narcotic. Irritating to skin, eyes and mucous membranes.	2612
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a pungent odour. Flashpoint: 34°C c.c. Miscible with water. Irritating to skin, eyes and mucous membranes.	2614
–	T4	TP1	F-E, S-D	Category E	–	Colourless, volatile liquids. Flashpoint: below –18°C c.c. Explosive limits: 1.7% to 9.0%. Miscible with water. Irritating to skin, eyes and mucous membranes.	2615
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: 17°C to 60°C c.c. Reacts with water, evolving flammable vapours.	2616
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	2616
–	T2	TP1	F-E, S-D	Category A	–	Colourless, viscous liquid with a menthol-like odour. Flashpoint: 58°C c.c. Partially miscible with water.	2617
–	T2	TP1	F-E, S-D	Category C SW1	–	Colourless liquids. Flashpoint: 54°C to 60°C c.c. Explosive limits: 0.9% to 6.1%. Partially miscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2618
–	T7	TP2	F-E, S-C	Category A SW1 SW2	SG35	Colourless, flammable liquid with an aromatic odour. Flashpoint: 58°C c.c. Immiscible with water. Harmful if swallowed, by skin contact or by inhalation. Corrosive to skin, eyes and mucous membranes.	2619

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2620	AMYL BUTYRATES	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2621	ACETYL METHYL CARBINOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2622	GLYCIDALDEHYDE	3	6.1	II	–	1 L	E2	P001	–	IBC02	B8
2623	FIRELIGHTERS, SOLID with flammable liquid	4.1	–	III	–	5 kg	E1	P002 LP02	PP15	–	–
2624	MAGNESIUM SILICIDE	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
2626	CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid	5.1	–	II	900	1 L	E0	P504	PP31	IBC02	–
2627	NITRITES, INORGANIC, N.O.S.	5.1	–	II	274 900	1 kg	E2	P002	–	IBC08	B4 B21
2628	POTASSIUM FLUOROACETATE	6.1	–	I	–	0	E5	P002	–	IBC07	B1
2629	SODIUM FLUOROACETATE	6.1	–	I	–	0	E5	P002	–	IBC07	B1
2630	SELENATES or SELENITES	6.1	–	I	274	0	E5	P002	–	IBC07	B1
2642	FLUOROACETIC ACID	6.1	–	I	–	0	E5	P002	–	IBC07	B1
2643	METHYL BROMOACETATE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
△ 2644	METHYL IODIDE	6.1	–	I	354	0	E0	P602	–	–	–
2645	PHENACYL BROMIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
△ 2646	HEXACHLOROCYCLO-PENTADIENE	6.1	–	I	354	0	E0	P602	–	–	–
2647	MALONONITRILE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2648	1,2-DIBROMOBUTAN-3-ONE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2649	1,3-DICHLOROACETONE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquids. Flashpoint: 52°C to 58°C c.c. Partially miscible with water.	2620
–	T2	TP1	F-E, S-D	Category A	–	Yellow liquid with a pleasant odour. Flashpoint: 44°C to 52°C c.c. Miscible with water. Reacts vigorously with oxidizing substances. Irritating to skin, eyes and mucous membranes.	2621
–	T7	TP1	F-E, S-D	Category A SW2	–	Colourless liquid with a pungent odour. Flashpoint: 31°C o.c. Miscible with water. Toxic by inhalation. Irritating to skin, eyes and mucous membranes.	2622
–	–	–	F-A, S-I	Category A	SG35	A porous solid, e.g. cellular urea–formaldehyde resin, compacted wood shavings, etc., impregnated with flammable liquid, usually white spirit or kerosene, and designed to burn in a controlled manner. When heated, evolves flammable vapours.	2623
–	T3	TP33	F-G, S-O	Category B SW5 H1	SG26	White powder or crystals. Reacts with water or steam, evolving hydrogen, a flammable gas. In contact with acids, evolves silane, a spontaneously flammable gas.	2624
–	–	–	F-A, S-Q	Category D	SGG1 SG36 SG38 SG49	Colourless liquid. May decompose, evolving chlorine and oxygen with toxic, corrosive and oxidizing effects. May form explosive mixtures with ammonium compounds, combustible material or powdered metals. Corrosive to most metals. Transport of CHLORIC ACID, AQUEOUS SOLUTION with more than 10% chloric acid is prohibited.	2626
–	T3	TP33	F-A, S-Q	Category A	SGG12 SG38 SG49 SG62	Solids. Solid mixtures with combustible material are readily ignited and may burn fiercely. Solid mixtures with ammonium compounds or cyanides may explode. If heated, may decompose, giving off toxic nitrous fumes. Harmful if swallowed. Transport of AMMONIUM NITRITES and mixtures of an inorganic nitrite with an ammonium salt is prohibited.	2627
–	T6	TP33	F-A, S-A	Category E	–	Solid. Soluble in water. Highly toxic if swallowed, by skin contact or by dust inhalation.	2628
–	T6	TP33	F-A, S-A	Category E	–	White powder. Soluble in water. Highly toxic if swallowed, by skin contact or by dust inhalation.	2629
–	T6	TP33	F-A, S-A	Category E	–	A wide range of toxic solids. Generally soluble in water. Highly toxic if swallowed, by skin contact or by dust inhalation.	2630
–	T6	TP33	F-A, S-A	Category E	SGG1 SG36 SG49	Colourless crystals. Melting point: 33°C. Soluble in water. Highly toxic if swallowed, by skin contact or by dust inhalation.	2642
–	T7	TP2	F-A, S-A	Category D SW2	–	Colourless to straw-coloured liquid. Slightly miscible with water. Causes tears. Toxic if swallowed, by skin contact or by inhalation.	2643
–	T20	TP2 TP13	F-A, S-A	Category D SW1 SW2 H2	SGG10	Colourless liquid. Boiling point: 42°C to 43°C. Slightly miscible with water. When heated, evolves toxic fumes. Highly toxic if swallowed, by skin contact or by inhalation. Has strong narcotic effects.	2644
–	T3	TP33	F-A, S-A	Category B SW2	–	White crystals changing to a greenish colour under the influence of light. Melting point: 50°C. Insoluble in water. Causes tears. Toxic if swallowed, by skin contact or by inhalation.	2645
–	T20	TP2 TP13	F-A, S-A	Category D SW2	SGG10	Pale yellow liquid with a pungent odour. Immiscible with water. Causes tears. Highly toxic if swallowed, by skin contact or by inhalation.	2646
–	T3	TP33	F-A, S-A	Category A SW1 H2	–	Colourless crystals. Melting point: 32°C. Soluble in water. When heated, evolves highly toxic cyanogen fumes. Toxic if swallowed, by skin contact or by dust inhalation.	2647
–	–	–	F-A, S-A	Category B SW2	–	Liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation. Causes tears.	2648
–	T3	TP33	F-A, S-A	Category B SW1 SW2 H2	–	Crystals. Melting point: 45°C. Soluble in water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by dust inhalation. Causes tears.	2649

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2650	1,1-DICHLORO-1-NITRO-ETHANE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2651	4,4'-DIAMINODIPHENYL-METHANE	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2653	BENZYL IODIDE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2655	POTASSIUM FLUOROSILICATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2656	QUINOLINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2657	SELENIUM DISULPHIDE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2659	SODIUM CHLOROACETATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2660	NITROTOLUIDINES (MONO)	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2661	HEXACHLOROACETONE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2664	DIBROMOMETHANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2667	BUTYLTOLUENES	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
△ 2668	CHLOROACETONITRILE	6.1	3	I	354	0	E0	P602	–	–	–
2669	CHLOROCRESOLS SOLUTION	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2669	CHLOROCRESOLS SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2670	CYANURIC CHLORIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2671	AMINOPYRIDINES (o-, m-, p-)	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2672	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia	8	– P	III	–	5 L	E1	P001 LP01	–	IBC03	B11

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2	F-A, S-A	Category A SW1 SW2 H2	SG17	Liquid. Immiscible with water. May react vigorously with oxidizing substances. Decomposes when heated, evolving highly toxic fumes (oxides of nitrogen). Toxic if swallowed, by skin contact or by inhalation.	2650
–	T1	TP33	F-A, <u>S-A</u>	Category A	–	Tan-coloured flakes or lumps. Slightly soluble in water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by dust inhalation. May be carried in the molten state.	2651
–	T7	TP2	F-A, S-A	Category B SW1 SW2 H2	–	Colourless crystals. Melting point: 24°C. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation. Causes tears.	2653
–	T1	TP33	F-A, S-A	Category A	SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2655
–	T4	TP1	F-A, S-A	Category A SW1 H2	–	Colourless liquid with a pungent odour. Immiscible with water. When heated, evolves highly toxic fumes (of oxides of nitrogen). Toxic if swallowed, by skin contact or by inhalation.	2656
–	T3	TP33	F-A, S-A	Category A	–	Bright red-yellow crystals with a faint odour. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	2657
–	T1	TP33	F-A, S-A	Category A	–	White powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2659
–	T1	TP33	F-A, S-A	Category A	–	Yellow to orange-red crystalline solids. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2660
–	T4	TP1	F-A, S-A	Category B SW1 SW2 H2	–	Colourless to yellowish liquid. Slightly miscible with water. When heated, evolves extremely toxic fumes (phosgene). Causes tears. Toxic if swallowed, by skin contact or by inhalation.	2661
–	T4	TP1	F-A, S-A	Category A	SGG10	Clear, colourless liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2664
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquids. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2667
–	T20	TP2 TP13	F-A, S-A	Category D SW1 SW2 H2	SG35	Colourless flammable liquid with a pungent odour. Flashpoint: 56°C c.c. Immiscible with water. Decomposes when heated, evolving highly toxic fumes of cyanides. Reacts with steam and acids, evolving toxic and flammable vapours. Highly toxic if swallowed, by skin contact or by inhalation.	2668
–	T7	TP2	F-A, S-A	Category A SW1 H2	–	Solutions with a phenol-like odour. Slightly miscible with water. Decompose when heated, evolving extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	2669
–	T7	TP2	F-A, S-A	Category A SW1 H2	–	See entry above.	2669
–	T3	TP33	F-A, S-B	Category A SW1 SW2 H2	SGG1 SG36 SG49	Colourless crystals with a pungent odour. Reacts with water, forming toxic and corrosive acids. Decomposes when heated, evolving toxic and corrosive gases. Causes burns to skin, eyes and mucous membranes.	2670
–	T3	TP33	F-A, S-A	Category B SW1 SW2 H2	SGG18 SG35	White powder or crystals. Melting points: 58°C to 64°C. Soluble in water. Reacts violently with acids. Toxic if swallowed, by skin contact or by dust inhalation.	2671
–	T7	TP2	F-A, <u>S-B</u>	Category A SW2 SW5	SGG18 SG35	Colourless liquid with a pungent odour. Corrosive to copper, nickel, zinc and tin and their alloys such as brass. Not significantly corrosive to iron and steel. Reacts violently with acids. Liquid and vapour cause burns to skin, eyes and mucous membranes.	2672



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2673	2-AMINO-4-CHLOROPHENOL	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2674	SODIUM FLUOROSILICATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2676	STIBINE	2.3	2.1	–	–	0	E0	P200	–	–	–
2677	RUBIDIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
2677	RUBIDIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2678	RUBIDIUM HYDROXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2679	LITHIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
2679	LITHIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2680	LITHIUM HYDROXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2681	CAESIUM HYDROXIDE SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
2681	CAESIUM HYDROXIDE SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2682	CAESIUM HYDROXIDE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2683	AMMONIUM SULPHIDE SOLUTION	8	3/6.1	II	–	1 L	E2	P001	–	IBC01	–
2684	3-DIETHYLAMINO-PROPYLAMINE	3	8	III	–	5 L	E1	P001	–	IBC03	–
2685	N,N-DIETHYLETHYLENE-DIAMINE	8	3	II	–	1 L	E2	P001	–	IBC02	–
2686	2-DIETHYLAMINOETHANOL	8	3	II	–	1 L	E2	P001	–	IBC02	–
2687	DICYCLOHEXYLAMMONIUM NITRITE	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2688	1-BROMO-3-CHLOROPROPANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-A	Category A	–	Light brown crystals. Slightly soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2673
–	T1	TP33	F-A, S-A	Category A	SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2674
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a foul odour. Decomposes violently in the presence of water. Much heavier than air (4.3).	2676
–	T7	TP2	F-A, S-B	Category A	SGG18 SG22 SG35	Liquid. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. Corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2677
–	T4	TP1	F-A, S-B	Category A	SGG18 SG22 SG35	See entry above.	2677
–	T3	TP33	F-A, S-B	Category A	SGG18 SG22 SG35	Greyish-white solid, very hygroscopic. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2678
–	T7	TP2	F-A, S-B	Category A	SGG18 SG22 SG35	Colourless liquid. Corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2679
–	T4	TP2	F-A, S-B	Category A	SGG18 SG22 SG35	See entry above.	2679
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	Colourless crystals. Soluble in water. Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.	2680
–	T7	TP2	F-A, S-B	Category A	SGG18 SG22 SG35	Colourless liquid. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. Corrosive to glass, aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2681
–	T4	TP1	F-A, S-B	Category A	SGG18 SG22 SG35	See entry above.	2681
–	T3	TP33	F-A, S-B	Category A	SGG18 SG22 SG35	Colourless or yellowish hygroscopic crystals. Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to glass, aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes.	2682
–	T7	TP2 TP13	F-E, S-C	Category B SW1 H2	SGG2 SGG18 SG35 SG68	Yellow liquid with a foul odour (of rotten eggs). When heated, evolves toxic and flammable vapours. Reacts violently with acids, evolving hydrogen sulphide, a toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation. Corrosive to skin, eyes and mucous membranes.	2683
–	T4	TP1	F-E, S-C	Category A	SG35	Colourless liquid with a fishy odour. Flashpoint: 59°C o.c. Miscible with water. Irritating to skin, eyes and mucous membranes.	2684
–	T7	TP2	F-E, S-C	Category A	SG35	Colourless, flammable liquid with a fishy odour. Flashpoint: 46°C o.c. Miscible with water. Harmful by skin contact. Irritating to eyes and mucous membranes.	2685
–	T7	TP2	F-E, S-C	Category A	SG35	Colourless liquid. Miscible with water. Reacts violently with oxidizing substances. Explosive limits: 1.8% to 28%. Flashpoint: 46°C to 60°C c.c. Causes burns to skin, eyes and mucous membranes.	2686
–	T1	TP33	F-A, S-G	Category A	SGG2	White powder. Insoluble in water. Harmful if swallowed.	2687
–	T4	TP1	F-A, S-A	Category A	SGG10	Colourless liquid. Immiscible with water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by inhalation.	2688

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2689	GLYCEROL <i>alpha</i> -MONOCHLOROHYDRIN	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2690	<i>N,n</i> -BUTYLIMIDAZOLE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2691	PHOSPHORUS PENTABROMIDE	8	–	II	–	1 kg	E0	P002	–	IBC08	B4 B21
2692	BORON TRIBROMIDE	8	–	I	–	0	E0	P602	–	–	–
2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S.	8	–	III	274	5 L	E1	P001 LP01	–	IBC03	–
2698	TETRAHYDROPTHALIC ANHYDRIDES with more than 0.05% maleic anhydride	8	–	III	29 169 939 973	5 kg	E1	P002 LP02	PP14	IBC08	B3
2699	TRIFLUOROACETIC ACID	8	–	I	–	0	E0	P001	–	–	–
2705	1-PENTOL	8	–	II	–	1 L	E2	P001	–	IBC02	–
2707	DIMETHYLDIOXANES	3	–	II	–	1 L	E2	P001	–	IBC02	–
2707	DIMETHYLDIOXANES	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2709	BUTYLBENZENES	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2710	DIPROPYL KETONE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2713	ACRIDINE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2714	ZINC RESINATE	4.1	–	III	–	5 kg	E1	P002	–	IBC06	–
2715	ALUMINIUM RESINATE	4.1	–	III	–	5 kg	E1	P002	–	IBC06	–
2716	1,4-BUTYNEDIOL	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2689
–	T7	TP2	F-A, S-A	Category A	–	Colourless to amber mobile liquid. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2690
–	T3	TP33	F-A, S-B	Category B SW1 SW2 H2	SGG1 SG36 SG37 SG49	Yellow hygroscopic crystals, evolving fumes in the air which are corrosive and heavier than air. Reacts violently with water, evolving hydrogen bromide, an irritating and corrosive gas apparent as white fumes. Reacts violently with ammonia, bases and many other substances and may cause fire and explosion. Decomposes when heated, evolving corrosive and toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2691
–	T20	TP2 TP13	F-A, S-B	Category C SW1 H2	SGG1 SG36 SG49	Colourless fuming liquid. Reacts violently with water, evolving toxic and corrosive fumes. Decomposes when heated, evolving toxic fumes. In the presence of moisture, highly corrosive to most metals. Liquid and vapour cause severe burns to skin, eyes and mucous membranes.	2692
–	T7	TP1 TP28	F-A, S-B	Category A SW2	SG35	Liquid with a pungent odour. Reacts with acids, evolving sulphur dioxide, a toxic gas. Causes burns to skin, eyes and mucous membranes.	2693
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White crystalline powders. React with water, evolving heat and forming tetrahydrophthalic acid. Cause burns to skin, eyes and mucous membranes. When heated, evolve acrid fumes which are irritating to skin, eyes and mucous membranes.	2698
–	T10	TP2	F-A, S-B	Category B SW1 SW2 H2	SGG1 SG36 SG49	Colourless, fuming, hygroscopic liquid with a pungent odour. Miscible with water. When heated to decomposition or in contact with acids, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapours are highly irritating to skin, eyes and mucous membranes. Liquid causes severe burns to skin, eyes and mucous membranes.	2699
–	T7	TP2	F-A, S-B	Category B	SG20 SG21	Colourless liquid with a perceptible odour. May react in contact with acids and alkalis. Causes burns to skin, eyes and mucous membranes.	2705
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquids with a pungent odour. Partially miscible with water. React vigorously with oxidizing substances. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2707
–	T2	TP1	F-E, S-D	Category A	–	See entry above.	2707
–	T2	TP2	F-E, <u>S-D</u>	Category A	–	Colourless liquids with an unpleasant odour. Flashpoint: 34°C to 60°C c.c. Explosive limits: 0.7% to 6.9%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2709
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 49°C c.c. Immiscible with water.	2710
–	T1	TP33	F-A, S-A	Category A	–	Small colourless to yellowish crystals or needles. Sublimes at 100°C. Practically insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	2713
–	T1	TP33	F-A, S-I	Category A	SGG7	Powder or clear amber lumps. Insoluble in water. Liable to spontaneous heating. Irritating to skin and mucous membranes.	2714
–	T1	TP33	F-A, S-I	Category A	–	Cream to brown coloured mass. Insoluble in water. Liable to spontaneous heating. Irritating to skin and mucous membranes.	2715
–	T1	TP33	F-A, S-A	Category A	SG35 SG36 SG55	White crystals. Melting point: 58°C. Soluble in water. Forms explosive mixtures with mercury salts, strong acids, alkaline compounds and halides. Toxic if swallowed, by skin contact or by inhalation.	2716



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2717	CAMPHOR, synthetic	4.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2719	BARIUM BROMATE	5.1	6.1	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2720	CHROMIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2721	COPPER CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2722	LITHIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2723	MAGNESIUM CHLORATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2724	MANGANESE NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2725	NICKEL NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2726	NICKEL NITRITE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2727	THALLIUM NITRATE	6.1	5.1 P	II	–	500 g	E4	P002	–	IBC06	B21
2728	ZIRCONIUM NITRATE	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2729	HEXACHLOROBENZENE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2730	NITROANISOLES, LIQUID	6.1	–	III	279	5 L	E1	P001 LP01	–	IBC03	–
2732	NITROBROMOBENZENES, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-I	Category A	–	Colourless or white crystals, granules or easily broken masses with a penetrating, pungent and aromatic odour. Slightly soluble in water. When heated, evolves flammable and explosive vapours. Harmful if swallowed.	2717
–	T3	TP33	F-H, S-Q	Category A	SGG3 SG38 SG49	White crystals or powder. Slightly soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation.	2719
–	T1	TP33	F-A, S-Q	Category A	–	Purple crystals. Mixtures with combustible material are readily ignited and may burn fiercely. Solutions in water are slightly corrosive. Harmful if swallowed.	2720
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	Blue-green deliquescent crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.	2721
–	T1	TP33	F-A, S-Q	Category A	–	Colourless deliquescent crystals. Soluble in water. Mixtures with combustible material are readily ignited and burn fiercely. Harmful if swallowed.	2722
–	T3	TP33	F-H, S-Q	Category A	SGG4 SG38 SG49	White deliquescent crystals or powder. Soluble in water. Melting point: 35°C. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. The cargoes should be protected from moisture prior to and after loading. If weather is inclement, hatches should be closed.	2723
–	T1	TP33	F-A, S-Q	Category A	–	Pale pink deliquescent crystals. Soluble in water. Melting point between 26°C and 35°C. Mixtures with combustible material are readily ignited and may burn fiercely. Solutions in water are slightly corrosive. Harmful if swallowed.	2724
–	T1	TP33	F-A, S-Q	Category A	–	Green deliquescent crystals. Soluble in water. Melting point: 55°C. Mixtures with combustible material are readily ignited and may burn fiercely. Solutions in water are slightly corrosive. Harmful if swallowed.	2725
–	T1	TP33	F-A, S-Q	Category A	SGG12 SG38 SG49	Reddish-yellow crystals. Decomposes if heated, giving off toxic nitrous fumes. Mixtures with combustible material are readily ignited and may burn fiercely. Mixtures with ammonium compounds or cyanides may explode. Harmful if swallowed.	2726
–	T3	TP33	F-A, S-Q	Category A	–	Colourless crystals. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Toxic if swallowed, by skin contact or by dust inhalation.	2727
–	T1	TP33	F-A, S-Q	Category A	–	White crystals, flakes or powder. Soluble in water. Solutions in water are slightly corrosive. Harmful if swallowed.	2728
–	T1	TP33	F-A, S-A	Category A	–	White needle-like crystals. Insoluble in water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by dust inhalation.	2729
–	T4	TP1	F-A, S-A	Category A	–	Light reddish or amber liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2730
–	T4	TP1	F-A, S-A	Category A	–	Colourless to pale yellow liquids. Melting point of 1-BROMO-3-NITROBENZENE: 17°C. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2732

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	8	I	274	0	E0	P001	–	–	–
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	8	II	274	1 L	E2	P001	–	IBC02	–
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	8	III	223 274	5 L	E1	P001	–	IBC03	–
2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	8	3	I	274	0	E0	P001	–	–	–
2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	8	3	II	274	1 L	E2	P001	–	IBC02	–
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
2738	N-BUTYLANILINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2739	BUTYRIC ANHYDRIDE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2740	n-PROPYL CHLOROFORMATE	6.1	3/8	I	–	0	E0	P602	–	–	–
2741	BARIUM HYPOCHLORITE with more than 22% available chlorine	5.1	6.1	II	–	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T14	TP1 TP27	F-E, S-C	Category D SW2	SGG18 SG35	Colourless to yellowish liquids with an unpleasant odour. Some are very volatile. Miscible with water. Corrosive to most metals, especially to copper and its alloys. When involved in a fire, evolve toxic gases. React violently with acids. Harmful by inhalation. Cause burns to skin, eyes and mucous membranes.	2733
–	T11	TP1 TP27	F-E, S-C	Category B SW2	SGG18 SG35	See entry above.	2733
–	T7	TP1 TP28	F-E, S-C	Category A SW2	SGG18 SG35	See entry above.	2733
–	T14	TP2 TP27	F-E, S-C	Category A	SGG18 SG35	Colourless to yellowish flammable liquids or solutions with a pungent odour. Miscible with water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. React violently with acids. Cause burns to skin, eyes and mucous membranes.	2734
–	T11	TP2 TP27	F-E, S-C	Category A	SGG18 SG35	See entry above.	2734
–	T14	TP2 TP27	F-A, S-B	Category A	SGG18 SG35	Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. React violently with acids. Cause burns to skin, eyes and mucous membranes.	2735
–	T11	TP1 TP27	F-A, S-B	Category A	SGG18 SG35	See entry above.	2735
–	T7	TP1 TP28	F-A, S-B	Category A	SGG18 SG35	See entry above.	2735
–	T7	TP2	F-A, S-A	Category A	SG17	Amber liquid with a perceptible odour. Immiscible with water. May react vigorously with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2738
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid. Decomposes in water to form butyric acid.	2739
–	T20	TP2 TP13	F-E, S-C	Category B SW2	SGG1 SG5 SG8 SG36 SG49	Colourless flammable liquid. Flashpoint: 28°C c.c. Decomposed by water, generating propyl alcohol. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2740
–	T3	TP33	F-H, S-Q	Category B	SGG8 SG35 SG38 SG49 SG53 SG60	White powder with pungent odour. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by dust inhalation. Dust irritates mucous membranes. Contact with eyes will cause serious injury to the cornea (blindness) if not treated immediately by using copious amounts of water followed by medical attention.	2741

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2742	CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	6.1	3/8	II	274	100 mL	E4	P001	–	IBC01	–
2743	<i>n</i> -BUTYL CHLOROFORMATE	6.1	3/8	II	–	100 mL	E0	P001	–	–	–
2744	CYCLOBUTYL CHLOROFORMATE	6.1	3/8	II	–	100 mL	E4	P001	–	IBC01	–
2745	CHLOROMETHYL CHLOROFORMATE	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2746	PHENYL CHLOROFORMATE	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2747	<i>tert</i> -BUTYLCYCLOHEXYL CHLOROFORMATE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2748	2-ETHYLHEXYL CHLOROFORMATE	6.1	8	II	–	100 mL	E4	P001	–	IBC02	–
2749	TETRAMETHYLSILANE	3	–	I	–	0	E0	P001	–	–	–
2750	1,3-DICHLOROPROPANOL-2	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2751	DIETHYLTHIOPHOSPHORYL CHLORIDE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2752	1,2-EPOXY-3-ETHOXYPROPANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2753	<i>N</i> -ETHYLBENZYL TOLUIDINES, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
△ 2754	<i>N</i> -ETHYL TOLUIDINES	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-E, S-C	Category A SW1 SW2 H1 H2	SGG1 SG5 SG8 SG36 SG49	A wide range of colourless to yellowish flammable liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Flashpoint: cyclohexyl chloroformate: 53°C c.c. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2742
–	T20	TP2 TP13	F-E, S-C	Category A SW1 SW2 H1 H2	SGG1 SG5 SG8 SG36 SG49	A wide range of colourless to yellowish flammable liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Flashpoint: 32°C c.c. to 39°C c.c. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2743
–	T7	TP2 TP13	F-E, S-C	Category A SW1 SW2 H1 H2	SGG1 SG5 SG8 SG36 SG49	A wide range of colourless to yellowish flammable liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Flashpoint: 38°C c.c. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2744
–	T7	TP2 TP13	F-A, S-B	Category A SW1 SW2 H1 H2	SGG1 SG36 SG49	A wide range of colourless to yellowish liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2745
–	T7	TP2 TP13	F-A, S-B	Category A SW1 SW2 H1 H2	SGG1 SG36 SG49	A wide range of colourless to yellowish liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2746
–	T4	TP1	F-A, S-A	Category A SW1 H1 H2	–	Colourless to yellowish liquid. Reacts with water or decomposes if heated, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation.	2747
–	T7	TP2 TP13	F-A, S-B	Category A SW1 SW2 H1 H2	SGG1 SG36 SG49	A wide range of colourless to yellowish liquids. React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	2748
–	T14	TP2	F-E, <u>S-D</u>	Category D	–	Colourless, volatile liquid. Flashpoint: below –18°C c.c. Boiling point: 27°C. Immiscible with water. Harmful if swallowed or by inhalation. Irritating to skin, eyes and mucous membranes.	2749
–	T7	TP2	F-A, S-A	Category A SW1 SW2 H2	–	Colourless, slightly viscous liquid with a chloroform-like odour. Immiscible with water. Decomposes when heated, evolving extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	2750
–	T7	TP2	F-A, S-B	Category D SW1 SW2 H2	SGG1 SG36 SG49	Colourless liquid with a perceptible odour. Reacts slowly with water, forming hydrochloric acid. When involved in a fire, evolves toxic gases (hydrogen chloride and sulphur dioxide). Vapour highly irritating to eyes and mucous membranes. Liquid causes burns to skin, eyes and mucous membranes.	2751
–	T2	TP1	F-E, S-D	Category A	–	Immiscible with water. Flashpoint: 47°C c.c. Irritating to skin, eyes and mucous membranes.	2752
–	T7	TP1	F-A, S-A	Category A	–	Liquids with a strong odour. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2753
–	T7	TP2	F-A, S-A	Category A	–	Colourless to light amber liquids. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2754
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2757
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2757

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002	–	IBC08	B3
2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T1	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2757
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2758
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2758
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2759
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2759
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2759
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2760
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2760
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2761
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2761
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2761
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2762
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2762
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2763
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2763
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2763
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2764
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2764
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2771
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2771
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2771



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	– P	I	61 274	0	E5	P002	–	IBC07	B1
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	– P	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	– P	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1 P	I	61 274	0	E0	P001	–	–	–
2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1 P	II	61 274	1 L	E2	P001	–	IBC02	–
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2772
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2772
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2775
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2775
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2775
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2776
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2776
–	T6	TP33	F-A, <u>S-A</u>	Category A SW2	SGG7 SGG11	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2777
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	SGG7 SGG11	See entry above.	2777
–	T1	TP33	F-A, <u>S-A</u>	Category A SW2	SGG7 SGG11	See entry above.	2777
–	T14	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	SGG7 SGG11	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2778
–	T11	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	SGG7 SGG11	See entry above.	2778
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2779
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2779
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2779
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2780
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2780
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2781
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2781
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2781

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
2785	4-THIAPENTANAL	6.1	–	III	–	5 L	E1	P001 LP01	PP31	IBC03	–
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	– P	I	61 274	0	E5	P002	–	IBC07	B1
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	– P	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	– P	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1 P	I	61 274	0	E0	P001	–	–	–
2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1 P	II	61 274	1 L	E2	P001	–	IBC02	–
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	– P	I	43 274	0	E5	P001	–	–	–
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	– P	II	43 274	100 mL	E4	P001	–	IBC02	–
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	– P	III	43 223 274	5 L	E1	P001 LP01	–	IBC03	–
2789	ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass	8	3	II	–	1 L	E2	P001	–	IBC02	–
2790	ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass	8	–	II	–	1 L	E2	P001	–	IBC02	–
2790	ACETIC ACID SOLUTION, more than 10% and less than 50% acid, by mass	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2782
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2782
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2783
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	2783
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	2783
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2784
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2784
–	T4	TP1	F-A, S-A	Category D SW1	SG20 SG21	Colourless liquid with an extremely foul and persistent odour. Miscible with water. Decomposes rapidly in contact with acids and bases. Toxic if swallowed, by skin contact or by inhalation.	2785
–	T6	TP33	F-A, <u>S-A</u>	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	2786
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	2786
–	T1	TP33	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	2786
–	T14	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2787
–	T11	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	–	See entry above.	2787
–	T14	TP2 TP13 TP27	F-A, <u>S-A</u>	Category A SW2	–	A wide variety of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	2788
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	2788
–	T7	TP2 TP28	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	2788
–	T7	TP2	F-E, S-C	Category A	SGG1 SG36 SG49	Colourless flammable liquid with a pungent odour. When pure, crystallizes below 16°C. Flashpoint: 40°C c.c. (pure product), 60°C c.c. (80% solution). Explosive limits: 4% to 17%. Miscible with water. Corrosive to lead and most other metals. Corrosive to skin, eyes and mucous membranes.	2789
–	T7	TP2	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Miscible with water. Corrosive to lead and most other metals. Corrosive to skin, eyes and mucous membranes.	2790
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	See entry above.	2790



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2793	FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating	4.2	–	III	223 931	0	E1	P003 LP02	PP20 PP100 L3	IBC08	B4 B6
2794	BATTERIES, WET, FILLED WITH ACID, electric storage	8	–	–	295	1 L	E0	P801	–	–	–
2795	BATTERIES, WET, FILLED WITH ALKALI, electric storage	8	–	–	295	1 L	E0	P801	–	–	–
2796	SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID	8	–	II	–	1 L	E2	P001	–	IBC02	B20
2797	BATTERY FLUID, ALKALI	8	–	II	–	1 L	E2	P001	–	IBC02	–
2798	PHENYLPHOSPHORUS DICHLORIDE	8	–	II	–	1 L	E0	P001	–	IBC02	–
2799	PHENYLPHOSPHORUS THIODICHLORIDE	8	–	II	–	1 L	E0	P001	–	IBC02	–
2800	BATTERIES, WET, NON-SPILLABLE, electric storage	8	–	–	238	1 L	E0	P003	PP16	–	–
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
2802	COPPER CHLORIDE	8	– P	III	–	500 g	E1	P002 LP02	–	IBC08	B3
2803	GALLIUM	8	–	III	–	5 kg	E0	P800	PP41	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	BK2	–	F-G, S-J	Category A H1	SG26	These cargoes are liable to self-heating and to ignite spontaneously, particularly when in a finely divided form, wet or contaminated with such materials as unsaturated cutting oil, oily rags and other combustible matter. Self-heating or inadequate ventilation may cause dangerous depletion of oxygen in the stowage spaces. Excessive amounts of cast iron borings or organic materials may encourage heating. The swarf should be protected from moisture prior to and after loading. If, during loading, the weather is inclement, hatches should be closed or otherwise protected to keep the material dry.	2793
–	–	–	F-A, S-B	Category A SW16	SGG1 SG36 SG49	Metal plates immersed in acid electrolyte in a glass, hard rubber or plastics receptacle. When electrically charged, may cause fire through short-circuiting of terminals. Acid electrolyte is corrosive to most metals. Causes burns to skin, eyes and mucous membranes. Used batteries being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.	2794
–	–	–	F-A, S-B	Category A SW16	SGG18 SG35	Metal plates immersed in alkaline electrolyte in a glass, hard rubber or plastics receptacle. When electrically charged, may cause fire through short-circuiting of terminals. Alkaline electrolyte is corrosive to aluminium, zinc and tin. Reacts violently with acids. Causes burns to skin, eyes and mucous membranes. Used batteries being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.	2795
–	T8	TP2	F-A, S-B	Category B	SGG1a SG36 SG49	Colourless liquid, mixture not exceeding 1.405 relative density. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2796
–	T7	TP2 TP28	F-A, S-B	Category A	SGG18 SG22 SG35	Reacts violently with acids. Reacts with ammonium salts, evolving ammonia gas. Corrosive to aluminium, zinc and tin.	2797
–	T7	TP2	F-A, S-B	Category B SW2	SGG1 SG36 SG49	Colourless liquid. Causes burns to skin, eyes and mucous membranes.	2798
–	T7	TP2	F-A, S-B	Category B SW2	SGG1 SG36 SG49	Colourless liquid which fumes slightly in air. Reacts with water or steam, evolving toxic and flammable vapours. Causes burns to skin, eyes and mucous membranes.	2799
–	–	–	F-A, S-B	Category A	–	Metal plates immersed in gelled alkaline or acid electrolyte in a glass, hard rubber or plastics receptacle of a non-spillable type. When electrically charged, may cause fire through short-circuiting of terminals. Cause burns to skin, eyes and mucous membranes.	2800
–	T14	TP2 TP27	F-A, S-B	Category A	–	A wide range of corrosive liquids. Cause burns to skin, eyes and mucous membranes.	2801
–	T11	TP2 TP27	F-A, S-B	Category A	–	See entry above.	2801
–	T7	TP1 TP28	F-A, S-B	Category A	–	See entry above.	2801
–	T1	TP33	F-A, <u>S-B</u>	Category A	SGG1 SG36 SG49	White to yellow-brown crystals or powder. Partially to fully soluble in water. Corrosive to steel. Causes burns to skin, eyes and mucous membranes.	2802
–	T1	TP33	F-A, S-B	Category B SW1	–	Silvery-white metallic element that melts at 29°C, becoming a bright, shiny liquid. Insoluble in water. Highly corrosive to aluminium. Harmful if swallowed, by skin contact or by inhalation. Special care should be taken if a leakage occurs when carried in aluminium freight containers. Carriage should be prohibited in hovercraft and other ships constructed from aluminium.	2803

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2805	LITHIUM HYDRIDE, FUSED SOLID	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC04	–
2806	LITHIUM NITRIDE	4.3	–	I	–	0	E0	P403	PP31	IBC04	B1
2807	MAGNETIZED MATERIAL	9	–	–	960	–	–	–	–	–	–
2809	MERCURY	8	6.1	III	365	5 kg	E0	P800	–	–	–
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	–	I	274 315	0	E5	P001	–	–	–
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC99	–
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002	–	IBC08	B3
2812	SODIUM ALUMINATE, SOLID	8	–	–	960	–	–	–	–	–	–
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	–	I	274	0	E0	P403	PP31	IBC99	–
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	–	II	274	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	–	III	223 274	1 kg	E1	P410	PP31	IBC08	B4
△ 2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS	6.2	–	–	318 341	0	E0	P620	–	–	–
2815	N-AMINOETHYLPIPERAZINE	8	6.1	III	–	5 L	E1	P001 LP01	–	IBC03	–
2817	AMMONIUM HYDROGEN-DIFLUORIDE SOLUTION	8	6.1	II	–	1 L	E2	P001	–	IBC02	B20
2817	AMMONIUM HYDROGEN-DIFLUORIDE SOLUTION	8	6.1	III	223	5 L	E1	P001	–	IBC03	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-G, S-N	Category E H1	SG26 SG35	White, crystalline mass. Reacts with water, moisture or acids, evolving hydrogen which may be ignited by the heat of the reaction.	2805
–	–	–	F-A, S-O	Category E	–	Brownish-red crystals or fine, free-flowing powder. Reacts slowly with water to form lithium hydroxide and ammonia.	2806
	–	–	–	–	–	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.	2807
–	–	–	F-A, <u>S-B</u>	Category B SW2	SGG7 SGG11 SG24	A silvery metallic element occurring in the liquid state at normal temperatures. Relative density: 13.546. Melting point: –39°C . Highly corrosive to aluminium. Toxic if swallowed, by skin contact or by inhalation. Special care should be taken if a leakage occurs during transport, especially when carried in breakable packages and in aluminium freight containers. Carriage should be prohibited in hovercraft and other ships constructed from aluminium.	2809
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation.	2810
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2810
–	T7	TP1 TP28	F-A, S-A	Category A SW2	–	See entry above.	2810
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	2811
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	2811
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	2811
	–	–	–	–	–	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.	2812
–	T9	TP7 TP33	<u>F-G</u> , S-N	Category E SW2 H1	SG26	–	2813
–	T3	TP33	F-G, S-N	Category E SW2 H1	SG26	–	2813
–	T1	TP33	F-G, S-N	Category E SW2 H1	SG26	–	2813
–	BK2	–	F-A, S-T	Category E SW2 H1 H5	SG50	Substances which are dangerous to humans or to humans and animals.	2814
–	T4	TP1	F-A, S-B	Category B SW1 SW2 H2	SG35 SG50	Yellow liquid. Miscible with water. Corrosive to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.	2815
–	T8	TP2 TP13	F-A, S-B	Category B SW2	SGG1 SGG2 SG36 SG49	Colourless liquid. Miscible with water. Highly corrosive to most metals and glass. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2817
–	T4	TP1 TP13	F-A, S-B	Category B SW2	SGG1 SGG2 SG36 SG49	See entry above.	2817

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2818	AMMONIUM POLYSULPHIDE SOLUTION	8	6.1	II	–	1 L	E2	P001	–	IBC02	–
2818	AMMONIUM POLYSULPHIDE SOLUTION	8	6.1	III	223	5 L	E1	P001	–	IBC03	–
2819	AMYL ACID PHOSPHATE	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2820	BUTYRIC ACID	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2821	PHENOL SOLUTION	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2821	PHENOL SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2822	2-CHLOROPYRIDINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2823	CROTONIC ACID, SOLID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3 B21
2826	ETHYL CHLOROTHIOFORMATE	8	3 P	II	–	0	E0	P001	–	–	–
2829	CAPROIC ACID	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2830	LITHIUM FERROSILICON	4.3	–	II	–	500 g	E2	P410 PP31 PP40		IBC07	B4 B21
2831	1,1,1-TRICHLOROETHANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2834	PHOSPHOROUS ACID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2835	SODIUM ALUMINIUM HYDRIDE	4.3	–	II	–	500 g	E0	P410 PP31 PP40		IBC04	–
2837	BISULPHATES, AQUEOUS SOLUTION	8	–	II	–	1 L	E2	P001	–	IBC02	–
2837	BISULPHATES, AQUEOUS SOLUTION	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2838	VINYL BUTYRATE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
2839	ALDOL	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T7	TP2 TP13	F-A, S-B	Category B SW1 SW2 H2	SGG2 SGG18 SG35	Unstable yellowish liquid with a foul odour (of rotten eggs). Miscible with water. Reacts violently with acids. Decomposes in contact with acids, evolving hydrogen sulphide, a toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2818
–	T4	TP1 TP13	F-A, S-B	Category B SW1 SW2 H2	SGG2 SGG18 SG35	See entry above.	2818
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Clear colourless liquid. A mixture of primary and amyl isomers. Immiscible with water. Corrosive to skin, eyes and mucous membranes.	2819
–	T4	TP1	F-A, S-B	Category A SW1 H2	SGG1 SG36 SG49	Colourless liquid with a penetrating and unpleasant odour. Freezing point: –5°C to –8°C. Miscible with water. Corrosive to most metals. Harmful if swallowed or by inhalation. Corrosive to skin, eyes and mucous membranes.	2820
–	T7	TP2	F-A, S-A	Category A	–	Yellowish solutions with a perceptible odour. Toxic if swallowed, by skin contact or by inhalation. Rapidly absorbed through the skin.	2821
–	T4	TP1	F-A, S-A	Category A	–	See entry above.	2821
–	T7	TP2	F-A, S-A	Category A SW2	–	Colourless oily liquid. Slightly miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2822
–	T1	TP33	F-A, S-B	Category A SW1 H2	SGG1 SG36 SG49	White crystalline solid. Soluble in water. Decomposes when heated, evolving toxic fumes. Causes burns to skin, eyes and mucous membranes.	2823
–	T7	TP2	F-E, <u>S-C</u>	Category A SW2	SGG1 SG36 SG49	Colourless, flammable liquid. Flashpoint: 29°C c.c. Causes burns to skin, eyes and mucous membranes.	2826
–	T4	TP1	F-A, S-B	Category A	SGG1 SG36 SG49	Oily, colourless or yellowish liquid. Melting point: –4°C. Partially miscible with water. Corrosive to mild steel. Causes burns to skin, eyes and mucous membranes.	2829
–	T3	TP33	F-G, S-N	Category E SW2 SW5 H1	SG26	Dark, crystalline, metal-like powder or brittle lumps. In contact with moisture, evolves flammable and toxic gases.	2830
–	T4	TP1	F-A, S-A	Category A SW2	SGG10	Colourless liquid. Immiscible with water. Decomposes when heated, evolving highly toxic fumes (phosgene and hydrogen chloride). Toxic if swallowed, by skin contact or by inhalation. Narcotic in high concentrations.	2831
–	T1	TP33	F-A, S-B	Category A SW1	SGG1 SG36 SG49	Colourless to yellow deliquescent crystals. Soluble in water. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2834
–	T3	TP33	F-G, S-O	Category E H1	SG26 SG35	White, crystalline solid. Reacts with water, moisture or acids, evolving hydrogen, which may be ignited by the heat of the reaction.	2835
–	T7	TP2	F-A, S-B	Category A	–	Colourless to white liquid. Miscible with water. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2837
–	T4	TP1	F-A, S-B	Category A	–	See entry above.	2837
–	T4	TP1	F-E, S-D	Category C SW1	–	Colourless liquid with a pungent odour. Flashpoint: 12°C c.c. Explosive limits: 1.4% to 8.8%. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2838
–	T7	TP2	F-A, S-A	Category A SW1 H2	–	Clear, colourless to yellow viscous liquid. Miscible with water. Decomposes at 85°C, evolving toxic fumes. May react vigorously with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2839

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2840	BUTYRALDOXIME	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2841	DI- <i>n</i> -AMYLAMINE	3	6.1	III	–	5 L	E1	P001	–	IBC03	–
2842	NITROETHANE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2844	CALCIUM MANGANESE SILICON	4.3	–	III	–	1 kg	E1	P410	PP31	IBC08	B4
2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.	4.2	–	I	274	0	E0	P400	–	–	–
2846	PYROPHORIC SOLID, ORGANIC, N.O.S.	4.2	–	I	274	0	E0	P404	PP31	–	–
2849	3-CHLOROPROPANOL-1	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2850	PROPYLENE TETRAMER	3	– P	III	–	5 L	E1	P001 LP01	–	IBC03	–
2851	BORON TRIFLUORIDE DIHYDRATE	8	–	II	–	1 L	E2	P001	–	IBC02	–
2852	DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–
2853	MAGNESIUM FLUOROSILICATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2854	AMMONIUM FLUOROSILICATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2855	ZINC FLUOROSILICATE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2856	FLUOROSILICATES, N.O.S.	6.1	–	III	274	5 kg	E1	P002 LP02	–	IBC08	B3
2857	REFRIGERATING MACHINES containing non-flammable, non-toxic, gases or ammonia solutions (UN 2672)	2.2	–	–	119	0	E0	P003	PP32	–	–
2858	ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)	4.1	–	III	921	5 kg	E1	P002 LP02	PP100 L3	–	–
2859	AMMONIUM METAVANADATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Immiscible with water. Flashpoint: 58°C c.c. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2840
–	T4	TP1	F-E, S-D	Category A	SG35	Colourless liquid with an ammoniacal odour. Flashpoint: 52°C c.c. Slightly miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2841
–	T2	TP1	F-E, S-D	Category A	–	Colourless, oily liquid. Flashpoint: 28°C c.c. Lower explosive limit: 3.4%. When involved in a fire, evolves nitrous toxic fumes. Slightly soluble in water. Irritating to skin, eyes and mucous membranes.	2842
–	T1	TP33	F-G, S-N	Category A SW5 H1	SG26 SG35	In contact with water, evolves hydrogen, a flammable gas. In contact with acid, evolves silane, a spontaneously flammable gas.	2844
–	T22	TP2 TP7	F-G, S-M	Category D H1	SG26 SG63	Highly flammable liquids, may ignite spontaneously in moist air. In contact with air, evolve irritating and slightly toxic fumes.	2845
–	–	–	F-G, S-M	Category D H1	SG26	Liable to ignite spontaneously in air. If shaken, may produce sparks. In contact with water, evolve hydrogen, a flammable gas.	2846
–	T4	TP1	F-A, S-A	Category A	–	Colourless to light-yellow liquid. Miscible with water. Mildly corrosive to steel. Toxic if swallowed, by skin contact or by inhalation.	2849
–	T2	TP2	F-E, S-E	Category A	–	Colourless liquid. Immiscible with water. Irritating to skin, eyes and mucous membranes. 1-dodecene is not marine pollutant.	2850
–	T7	TP2	F-A, S-B	Category B SW1 SW2 H2	SGG1 SG36 SG49	Colourless, non-fuming liquid. Boiling range: 58°C to 60°C. Reacts with water, evolving corrosive and toxic fumes. Corrosive to mild steel. Causes burns to skin, eyes and mucous membranes.	2851
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. Golden-yellow, crystalline leaflets. Explosive and sensitive to shock and heat in the dry state. May form extremely sensitive compounds with heavy metals or their salts.	2852
–	T1	TP33	F-A, S-A	Category A	SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2853
–	T1	TP33	F-A, S-A	Category A	SGG2 SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2854
–	T1	TP33	F-A, S-A	Category A	SGG7 SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2855
–	T1	TP33	F-A, S-A	Category A	SG35	Solids which react with acids, evolving hydrogen fluoride and silicon tetrafluoride, irritating and corrosive gases. Toxic if swallowed, by skin contact or by dust inhalation.	2856
–	–	–	F-C, S-V	Category A	–	–	2857
–	–	–	F-G, S-G	Category A H1	SG25 SG26	Hard silvery metal.	2858
–	T3	TP33	F-A, S-A	Category A	SGG2 SG6 SG8 SG10 SG12	White crystalline powder. Slightly soluble in water. May act as an oxidizing substance. Toxic if swallowed, by skin contact or by inhalation.	2859



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2861	AMMONIUM POLYVANADATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2862	VANADIUM PENTOXIDE, non-fused form	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2863	SODIUM AMMONIUM VANADATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2864	POTASSIUM METAVANADATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2865	HYDROXYLAMINE SULPHATE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2869	TITANIUM TRICHLORIDE MIXTURE	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2869	TITANIUM TRICHLORIDE MIXTURE	8	–	III	223	5 kg	E1	P002 LP02	–	IBC08	B3
2870	ALUMINIUM BOROHYDRIDE	4.2	4.3	I	–	0	E0	P400	–	–	–
2870	ALUMINIUM BOROHYDRIDE IN DEVICES	4.2	4.3	I	–	0	E0	P002	PP13	–	–
2871	ANTIMONY POWDER	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2872	DIBROMOCHLOROPROPANES	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2872	DIBROMOCHLOROPROPANES	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
2873	DIBUTYLAMINOETHANOL	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2874	FURFURYL ALCOHOL	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2875	HEXACHLOROPHENE	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2876	RESORCINOL	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2878	TITANIUM SPONGE GRANULES or TITANIUM SPONGE POWDERS	4.1	–	III	223	5 kg	E1	P002 LP02	PP100 L3	IBC08	B4
2879	SELENIUM OXYCHLORIDE	8	6.1	I	–	0	E0	P001	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-A	Category A	SGG2 SG6 SG8 SG10 SG12	Orange powder. Slightly soluble in water. May act as an oxidizing substance. Toxic if swallowed, by skin contact or by inhalation.	2861
–	T1	TP33	F-A, S-A	Category A	–	Brownish powder. Slightly soluble in water. Toxic if swallowed, by skin contact or by inhalation.	2862
–	T3	TP33	F-A, S-A	Category A	SGG2	Orange wet cake (with 10% to 15% water). Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2863
–	T3	TP33	F-A, S-A	Category A	–	White crystalline powder. Slightly soluble in water. Toxic if swallowed, by skin contact or by inhalation.	2864
–	T1	TP33	F-A, S-B	Category A	SGG1 SG35 SG36 SG49	Colourless to white crystalline powder. Soluble in water. May decompose explosively when heated. Causes burns to skin, eyes and mucous membranes.	2865
–	T3	TP33	F-A, S-B	Category A SW2	SGG1 SGG7 SG36 SG49	Violet crystalline solid. Reacts in moist air or in water, evolving heat and hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	2869
–	T1	TP33	F-A, S-B	Category A SW2	SGG1 SGG7 SG36 SG49	See entry above.	2869
–	T21	TP7 TP33	F-G, S-M	Category D H1	SG26	Liquid. Ignites spontaneously in air. Reacts with water or steam to produce heat or hydrogen, which may form explosive mixtures with air.	2870
–	–	–	F-G, S-M	Category D H1	SG26	–	2870
–	T1	TP33	F-A, S-A	Category A	–	Metallic antimony in the form of a fine grey powder. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2871
–	T7	TP2	F-A, S-A	Category A	SGG10	Colourless liquid with a perceptible odour. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2872
–	T4	TP1	F-A, S-A	Category A	SGG10	See entry above.	2872
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid with a perceptible odour. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2873
–	T4	TP1	F-A, S-A	Category A	SG17 SG35	Clear, colourless, mobile liquid, becoming brown to dark-red upon exposure to light and air. Miscible with water. Reacts explosively with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.	2874
–	T1	TP33	F-A, S-A	Category A	–	White, odourless powder or crystals. Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2875
–	T1	TP33	F-A, S-A	Category A	–	White to pink crystals. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2876
–	T1	TP33	F-G, S-G	Category D H1	SGG7 SGG15 SG17 SG25 SG26	Silvery grey granules or dark grey, amorphous powder. May react with carbon dioxide, evolving oxygen. Forms explosive mixtures with oxidizing substances.	2878
–	T10	TP2 TP13	F-A, S-B	Category E SW2	SGG1 SG36 SG49	Colourless, yellowish liquid. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Causes severe burns to skin, eyes and mucous membranes.	2879



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE with not less than 5.5% but not more than 16% water	5.1	– P	II	314 322	1 kg	E2	P002	PP85	–	–
2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE with not less than 5.5% but not more than 16% water	5.1	– P	III	223 314	5 kg	E1	P002	PP85	–	–
2881	METAL CATALYST, DRY	4.2	–	I	274	0	E0	P404	PP31	–	–
2881	METAL CATALYST, DRY	4.2	–	II	274	0	E0	P410	PP31	IBC06	B21
2881	METAL CATALYST, DRY	4.2	–	III	223 274	0	E1	P002 LP02	PP31 L4	IBC08	B4
△ 2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only	6.2	–	–	318 341	0	E0	P620	–	–	–
2901	BROMINE CHLORIDE	2.3	5.1/8	–	–	0	E0	P200	–	–	–
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	–	I	61 274	0	E5	P001	–	–	–
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes.	2880
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	See entry above	2880
–	T21	TP7 TP33	F-G, S-M	Category C H1	SGG7 SGG15 SG25 SG26	Liable to ignite spontaneously in air.	2881
–	T3	TP33	F-G, S-M	Category C H1	SGG7 SGG15 SG25 SG26	See entry above.	2881
–	T1	TP33	F-G, S-M	Category C H1	SGG7 SGG15 SG25 SG26	See entry above.	2881
–	BK2	–	F-A, S-T	Category E SW2 H1 H5	SG50	Substances which are dangerous to animals only. For action to be taken in the event of damage to, or leaking from, a package containing infectious substances, refer to 7.8.3.	2900
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Reddish-yellow non-flammable, toxic and corrosive gas. When heated to decomposition, emits highly toxic and corrosive fumes of bromine and chlorine. Reacts with water, evolving toxic and corrosive fumes. Powerful oxidizing agent which may cause violent fires with combustible materials. Much heavier than air. Highly irritating to skin, eyes and mucous membranes.	2901
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2902
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2902
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	2902
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2903
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2903
–	T7	TP2	F-E, S-D	Category A SW2	–	See entry above.	2903

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2904	CHLOROPHENOLATES, LIQUID or PHENOLATES, LIQUID	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2905	CHLOROPHENOLATES, SOLID or PHENOLATES, SOLID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2907	ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch, or calcium hydrogen phosphate	4.1	–	II	127	0	E0	P406	PP26 PP80	IBC06	B12 B21
2908	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – EMPTY PACKAGING	7	See SP290	–	290 368	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2909	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM	7	See SP290	–	290	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2910	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – LIMITED QUANTITY OF MATERIAL	7	See SP290	–	290 368	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2911	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – INSTRUMENTS or ARTICLES	7	See SP290	–	290	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2912	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2913	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I, SCO-II or SCO-III), non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2915	RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2916	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2917	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2919	RADIOACTIVE MATERIAL TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.	8	3	I	274	0	E0	P001	–	–	–
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.	8	3	II	274	1 L	E2	P001	–	IBC02	–
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	4.1	I	274	0	E0	P002	–	IBC99	–
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	4.1	II	274	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-B	Category A	–	A wide range of corrosive liquids. Cause burns to skin, eyes and mucous membranes.	2904
–	T1	TP33	F-A, S-B	Category A	–	A wide range of corrosive solids. Soluble in water. Cause burns to skin, eyes and mucous membranes.	2905
–	–	–	F-A, S-J	Category E	SG7 SG30	Desensitized explosive. Pure isosorbide dinitrate is explosive. May form extremely sensitive compounds with heavy metals or their salts.	2907
–	–	–	F-I, S-S	Category A	–	See 1.5.1 and 5.1.5.4.2.	2908
–	–	–	F-I, S-S	Category A	–	See 1.5.1 and 5.1.5.4.2.	2909
–	–	–	F-I, S-S	Category A	–	See 1.5.1 and 5.1.5.4.2.	2910
–	–	–	F-I, S-S	Category A	–	See 1.5.1 and 5.1.5.4.2.	2911
–	T5	TP4	F-I, S-S	Category A SW20 SW21	–	See 1.5.1.	2912
–	T5	TP4	F-I, S-S	Category A	–	See 1.5.1.	2913
–	–	–	F-I, S-S	Category A SW20 SW21	–	See 1.5.1.	2915
–	–	–	F-I, S-S	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	2916
–	–	–	F-I, S-S	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	2917
–	–	–	F-I, <u>S-S</u>	Category A SW13	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	2919
–	T14	TP2 TP27	F-E, S-C	Category C SW1 SW2	–	Causes burns to skin, eyes and mucous membranes.	2920
–	T11	TP2 TP27	F-E, S-C	Category C SW1 SW2	–	See entry above.	2920
–	T6	TP33	F-A, S-G	Category B SW1 H2	–	Causes burns to skin, eyes and mucous membranes.	2921
–	T3	TP33	F-A, S-G	Category B SW1 H2	–	See entry above.	2921

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	6.1	I	274	0	E0	P001	–	–	–
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	6.1	II	274	1 L	E2	P001	–	IBC02	–
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	6.1	III	223 274	5 L	E1	P001	–	IBC03	–
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	6.1	I	274	0	E0	P002	–	IBC99	–
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	6.1	II	274	1 kg	E2	P002	–	IBC08	B4 B21
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	6.1	III	223 274	5 kg	E1	P002	–	IBC08	B3
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	8	I	274	0	E0	P001	–	–	–
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	8	II	274	1 L	E2	P001	–	IBC02	–
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	8	III	223 274	5 L	E1	P001	–	IBC03	–
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	8	II	274	1 kg	E2	P002	–	IBC06	B21
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	8	III	223 274	5 kg	E1	P002	–	IBC06	–
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	6.1	II	274	1 kg	E2	P002	–	IBC06	B21
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	6.1	III	223 274	5 kg	E1	P002	–	IBC06	–
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	6.1	8	I	274 315	0	E5	P001	–	–	–
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	6.1	8	II	274	100 mL	E4	P001	–	IBC02	–
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	8	I	274	0	E5	P002	–	IBC99	–
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	8	II	274	500 g	E4	P002	–	IBC06	B21
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	6.1	3	I	274 315	0	E5	P001	–	–	–
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	6.1	3	II	274	100 mL	E4	P001	–	IBC02	–
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	4.1	I	274	0	E5	P002	–	IBC99	–
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	4.1	II	274	500 g	E4	P002	–	IBC08	B4 B21
2931	VANADYL SULPHATE	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
2933	METHYL 2-CHLORO-PROPIONATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2934	ISOPROPYL 2-CHLORO-PROPIONATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T14	TP2 TP13 TP27	F-A, S-B	Category B SW2	–	Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.	2922
–	T7	TP2	F-A, S-B	Category B SW2	–	See entry above.	2922
–	T7	TP1 TP28	F-A, S-B	Category B SW2	–	See entry above.	2922
–	T6	TP33	F-A, S-B	Category B SW2	–	Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.	2923
–	T3	TP33	F-A, S-B	Category B SW2	–	See entry above.	2923
–	T1	TP33	F-A, S-B	Category B SW2	–	See entry above.	2923
–	T14	TP2	F-E, S-C	Category E SW2	–	Causes burns to skin, eyes and mucous membranes.	2924
–	T11	TP2 TP27	F-E, S-C	Category B SW2	–	See entry above.	2924
–	T7	TP1 TP28	F-E, S-C	Category A SW2	–	See entry above.	2924
–	T3	TP33	F-A, S-G	Category D SW2	–	Causes burns to skin, eyes and mucous membranes.	2925
–	T1	TP33	F-A, S-G	Category D SW2	–	See entry above.	2925
–	T3	TP33	F-A, S-G	Category B SW2	–	Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.	2926
–	T1	TP33	F-A, S-G	Category B SW2	–	See entry above.	2926
–	T14	TP2 TP13 TP27	F-A, S-B	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2927
–	T11	TP2 TP27	F-A, S-B	Category B SW2	–	See entry above.	2927
–	T6	TP33	F-A, S-B	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	2928
–	T3	TP33	F-A, S-B	Category B SW2	–	See entry above.	2928
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation.	2929
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2929
–	T6	TP33	F-A, S-G	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	2930
–	T3	TP33	F-A, S-G	Category B	–	See entry above.	2930
–	T3	TP33	F-A, S-A	Category A	–	Blue, crystalline powder. Soluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	2931
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with an ether-like odour. Flashpoint: 32°C c.c. Slightly soluble in water. Irritating to skin, eyes and mucous membranes.	2933
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a sweetish odour. Flashpoint: 50°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2934

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2935	ETHYL 2-CHLOROPROPIONATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2936	THIOLACTIC ACID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2937	<i>alpha</i> -METHYLBENZYL ALCOHOL, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2940	9-PHOSPHABICYCLONONANES (CYCLOOCTADIENE-PHOSPHINES)	4.2	–	II	–	0	E2	P410	PP31	IBC06	B21
2941	FLUOROANILINES	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2942	2-TRIFLUOROMETHYLANILINE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2943	TETRAHYDRO-FURFURYLAMINE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2945	<i>N</i> -METHYLBUTYLAMINE	3	8	II	–	1 L	E2	P001	–	IBC02	–
2946	2-AMINO-5-DIETHYLAMINO-PENTANE	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2947	ISOPROPYL CHLOROACETATE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
2948	3-TRIFLUOROMETHYLANILINE	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2949	SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
2950	MAGNESIUM GRANULES, COATED, particle size not less than 149 microns	4.3	–	III	920	1 kg	E1	P410	PP100	IBC08	B4
2956	5- <i>tert</i> -BUTYL-2,4,6-TRINITRO- <i>m</i> -XYLENE (MUSK XYLENE)	4.1	–	III	133	0	E0	P409	–	–	–
2965	BORON TRIFLUORIDE DIMETHYL ETHERATE	4.3	3/8	I	–	0	E0	P401	PP31	–	–
2966	THIOGLYCOL	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
2967	SULPHAMIC ACID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
2968	MANEB, STABILIZED or MANEB PREPARATION, STABILIZED against self-heating	4.3	– P	III	223 946	1 kg	E1	P002	PP100	IBC08	B4

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a pungent odour. Flashpoint: 38°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.	2935
–	T7	TP2	F-A, S-A	Category A	–	Oily liquid with a foul odour. Melting point: 10°C. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2936
–	T4	TP1	F-A, S-A	Category A	–	Colourless liquid. Slightly miscible with water. Melting point: 21°C (pure substance). Toxic if swallowed, by skin contact or by inhalation.	2937
–	T3	TP33	F-A, S-J	Category A	–	Colourless, waxy solids. Melting point: 40°C to 60°C. React in contact with materials such as sawdust or other cellulose-based materials, resulting in charring and evolution of toxic fumes. Irritating to skin, eyes and mucous membranes.	2940
–	T4	TP1	F-A, S-A	Category A	–	Liquids. Freezing points: –28°C to –2°C. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2941
–	–	–	F-A, S-A	Category A	–	Liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	2942
–	T2	TP1	F-E, S-D	Category A	–	Colourless to yellowish liquid with an ammoniacal odour. Flashpoint: 45°C c.c. Miscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2943
–	T7	TP1	F-E, S-C	Category B SW2	SG35	Colourless liquid. Flashpoint: 0°C c.c. Miscible with water. Harmful by inhalation. Causes burns to skin and eyes. Irritating to mucous membranes.	2945
–	T4	TP1	F-A, S-A	Category A	–	Liquid with an acrid odour. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2946
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid with a pungent odour. Flashpoint: 56°C c.c. Slightly soluble in water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	2947
–	T7	TP2	F-A, S-A	Category A SW2	–	Colourless to yellowish liquid. Melting point: 5°C. Slightly miscible with water. Toxic if swallowed, by skin contact or by inhalation.	2948
–	T7	TP2	F-A, S-B	Category A	SGG18 SG35	Colourless needles or yellow flakes. Soluble in water with a foul odour. Melting point: 52°C. Reacts violently with acids, evolving hydrogen sulphide, a toxic and flammable gas. Causes burns to skin, eyes and mucous membranes.	2949
–	T1 BK2	TP33	F-G, S-O	Category A H1	SGG15 SG26 SG35	Coated granules with particle size ranging from 149 to 2,000 microns. In contact with water or acids, evolve hydrogen, a flammable gas.	2950
–	–	–	F-B, S-G	Category D SW1 SW2 H2 H3	SG1	Insoluble in water. May explode if involved in a fire under confined conditions. Sensitive to strong detonation shock. Harmful if swallowed or by skin contact.	2956
–	T10	TP2 TP7 TP13	<u>F-G</u> , S-O	Category D SW2 H1	SG5 SG8 SG13 SG25 SG26	Colourless, flammable liquid. Flashpoint: 20°C c.c. but widely variable, depending upon free ether content. Freezing point: –14°C. Decomposes in contact with water, forming dimethyl ether, a flammable gas. Causes burns to skin, eyes and mucous membranes.	2965
–	T7	TP2	F-A, S-A	Category A	–	Colourless liquid with a foul odour. Miscible with water. Decomposes when heated, evolving sulphur dioxide. Toxic if swallowed, by skin contact or by inhalation.	2966
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White crystalline powder. Soluble in water. Decomposes when heated, evolving toxic fumes. Causes burns to skin, eyes and mucous membranes.	2967
–	T1	TP33	F-G, <u>S-L</u>	Category B H1	SG26 SG29 SG35	Yellow powder. May evolve toxic, irritating or flammable fumes when wet, when involved in a fire or in contact with acids. Requires certification from the shipper that the substance is not class 4.2.	2968



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2969	CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE	9	–	II	141	5 kg	E2	P002	PP34	IBC08	B4 B21
2977	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	7	6.1/8	–	–	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2978	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE non fissile or fissile-excepted	7	6.1/8	–	317	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
2983	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE with not more than 30% ethylene oxide	3	6.1	I	–	0	E0	P001	–	–	–
2984	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)	5.1	–	III	65	5 L	E1	P504	–	IBC02	B5
2985	CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.	3	8	II	–	0	E0	P010	–	–	–
2986	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.	8	3	II	–	0	E0	P010	–	–	–
2987	CHLOROSILANES, CORROSIVE, N.O.S.	8	–	II	–	0	E0	P010	–	–	–
2988	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	4.3	3/8	I	–	0	E0	P401	PP31	–	–
2989	LEAD PHOSPHITE, DIBASIC	4.1	–	II	922	1 kg	E2	P002	–	IBC08	B4 B21
2989	LEAD PHOSPHITE, DIBASIC	4.1	–	III	922	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3 BK2	TP33	F-A, S-A	Category E SW2	SG10 SG18 SG29	Whole beans or meal. The latter is the residue remaining after the oil has been extracted from the seeds. Castor beans contain a powerful allergen which, by inhalation of dust or by skin contact with crushed bean products, can give rise to severe irritation of the skin, eyes and mucous membranes in some persons. They are also toxic by ingestion. When handling these products, wear at least a dust mask and goggles. Avoid unnecessary skin contact.	2969
–	–	–	<u>F-I, S-S</u>	Category B SW2 SW12	SG17 SG76 SG78	See 1.5.1.	2977
–	–	–	<u>F-I, S-S</u>	Category B SW2 SW12	SG17 SG76 SG78	See 1.5.1.	2978
–	T14	TP2 TP7 TP13	F-E, S-D	Category E SW1 SW2	–	Colourless, volatile liquid with an ethereal odour. Flashpoint: below –18°C c.c. Explosive limits: 2.2% to 55%. Boiling point: 23°C to 28°C. Miscible with water. Corrosive to aluminium. Toxic if swallowed, by skin contact or by inhalation. Irritating to eyes and mucous membranes.	2983
–	T4	TP1 TP6 TP24	F-H, S-Q	Category B SW1	SG16 SG59 SG72	Colourless liquid. Slowly decomposes, evolving oxygen; the rate of decomposition increases in contact with metals, except aluminium.	2984
–	T14	TP2 TP7 TP13 TP27	<u>F-E</u> , S-C	Category B SW2	SGG1 SG36 SG49	Colourless liquids with a pungent odour. When involved in a fire, evolve toxic gases. React violently with water, evolving hydrogen chloride, an irritating and corrosive gas. In the presence of moisture, highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2985
–	T14	TP2 TP7 TP13 TP27	F-E, S-C	Category C SW2	SGG1 SG36 SG49	Colourless, flammable liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gas. In the presence of moisture, highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2986
–	T14	TP2 TP7 TP13 TP27	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gases. In the presence of moisture, highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.	2987
–	T14	TP2 TP7 TP13	<u>F-G</u> , S-N	Category D SW2 H1	SGG1 SG5 SG8 SG13 SG25 SG26 SG36 SG49	Colourless, very volatile liquids, flammable and corrosive, with a pungent odour. Immiscible with water. React violently with water or steam to produce heat which may lead to self-ignition; toxic and corrosive fumes will be evolved. May react vigorously in contact with oxidizing substances. Cause burns to skin, eyes and mucous membranes.	2988
–	T3	TP33	F-A, S-G	Category B	SGG7 SGG9 SG29	Fine white crystals or powder. Insoluble in water. Combustion can be sustained, even in the absence of air. Harmful if swallowed.	2989
–	T1	TP33	F-A, S-G	Category B	SGG7 SGG9 SG29	See entry above.	2989



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2990	LIFE-SAVING APPLIANCES, SELF-INFLATING	9	–	–	296	0	E0	P905	–	–	–
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-V	Category A	SG18 SG71	These articles may contain: .1 class 2.2 compressed gases; .2 signal devices (class 1) which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings; .3 electric storage batteries; .4 first aid kit; or .5 “strike anywhere” matches.	2990
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2991
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2991
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	2991
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2992
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2992
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	2992
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2993
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2993
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	2993
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2994
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2994
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	2994
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	It frequently contains petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2995
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2995
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	2995

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2996
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2996
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	2996
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	It frequently contains petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2997
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	2997
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	2997
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See alphabetical index to identify those pesticides which are marine pollutants. Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	2998
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	2998
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	2998
–	T14	TP2 TP13	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3005
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3005
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3005
–	T14	TP2 TP13	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3006
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	3006
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3006
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3009
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3009

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	I	61 274	0	E5	P001	–	–	–
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	II	61 274	100 mL	E4	P001	–	IBC02	–
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	III	61 223 274	5 L	E1	P001	–	IBC03	–
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	– P	I	61 274	0	E5	P001	–	–	–
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	– P	II	61 274	100 mL	E4	P001	–	IBC02	–
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	– P	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3009
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3010
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	3010
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3010
–	T14	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	SGG7 SGG11	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3011
–	T11	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	SGG7 SGG11	See entry above.	3011
–	T7	TP2 TP28	F-E, <u>S-D</u>	Category A SW2	SGG7 SGG11	See entry above.	3011
–	T14	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B SW2	SGG7 SGG11	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3012
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B SW2	SGG7 SGG11	See entry above.	3012
–	T7	TP2 TP28	F-A, <u>S-A</u>	Category A SW2	SGG7 SGG11	See entry above.	3012
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3013
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3013
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3013
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3014
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	3014
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3014

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	I	61 274	0	E5	P001	–	–	–
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	II	61 274	100 mL	E4	P001	–	IBC02	–
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3 P	III	61 223 274	5 L	E1	P001	–	IBC03	–
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	– P	I	61 274	0	E5	P001	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3015
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3015
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3015
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3016
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	3016
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3016
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3017
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3017
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3017
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3018
–	T11	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	See entry above.	3018
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3018
–	T14	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3019
–	T11	TP2 TP13 TP27	F-E, <u>S-D</u>	Category B SW2	–	See entry above.	3019
–	T7	TP2 TP28	F-E, <u>S-D</u>	Category A SW2	–	See entry above.	3019
–	T14	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3020



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	– P	II	61 274	100 mL	E4	P001	–	IBC02	–
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	– P	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
3022	1,2-BUTYLENE OXIDE, STABILIZED	3	–	II	386	1 L	E2	P001	–	IBC02	–
△ 3023	2-METHYL-2-HEPTANETHIOL	6.1	3	I	354	0	E0	P602	–	–	–
3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3020
–	T7	TP2 TP28	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	3020
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3021
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3021
–	T4	TP1	F-E, S-D	Category C SW1	SG20 SG21	Colourless liquid. Flashpoint: –15°C c.c. Explosive limits: 1.5% to 18.3%. Reacts violently with acids, alkalis and oxidizers. Miscible with water. Harmful if swallowed or by inhalation. Irritating to skin, eyes and mucous membranes.	3022
–	T20	TP2 TP13	F-E, S-D	Category D SW2	SG57	Colourless flammable liquid with a foul odour. Flashpoint: 31°C c.c. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.	3023
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently contain petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3024
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3024
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Liquid flammable pesticides having a flashpoint between 23°C and 60°C c.c., presenting a very wide range of toxic hazard. They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3025
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3025
–	T7	TP1 TP28	F-E, S-D	Category A SW2	–	See entry above.	3025
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3026
–	T11	TP2 TP27	F-A, S-A	Category B SW2	–	See entry above.	3026
–	T7	TP1 TP28	F-A, S-A	Category A SW2	–	See entry above.	3026
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	3027
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	3027
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	3027



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3028	BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE, SOLID electric storage	8	–	III	295 304	5 kg	E0	P801	–	–	–
3048	ALUMINIUM PHOSPHIDE PESTICIDE	6.1	–	I	153 930	0	E0	P002	PP31	IBC07	B1
3054	CYCLOHEXYL MERCAPTAN	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3055	2-(2-AMINOETHOXY)ETHANOL	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3056	n-HEPTALDEHYDE	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3057	TRIFLUOROACETYL CHLORIDE	2.3	8	–	–	0	E0	P200	–	–	–
3064	NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin	3	–	II	359	0	E0	P300	–	–	–
3065	ALCOHOLIC BEVERAGES, with more than 70% alcohol by volume	3	–	II	–	5 L	E2	P001	PP2	IBC02	–
3065	ALCOHOLIC BEVERAGES, with more than 24% but not more than 70% alcohol by volume	3	–	III	144 145 247	5 L	E1	P001	PP2	IBC03	–
3066	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	8	–	II	163 367	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-B	Category A	SGG18 SG35	Series of metal plates immersed in dry potassium hydroxide in a closed receptacle. When electrically charged, may cause fire through short-circuiting of terminals. Batteries need not be individually marked and labelled if the pallet bears the appropriate mark and label. Used batteries being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport. React violently with acids.	3028
–	T6	TP33	F-A, S-A	Category E SW2 SW5	–	Waxed pellets, adequately stabilized powder, tablets or crystals. Highly toxic if swallowed, by skin contact or by inhalation.	3048
–	T2	TP1	F-E, S-D	Category A SW2	SG50 SG57	Colourless liquid with a garlic-like odour. Flashpoint: 49°C c.c. Immiscible with water. Harmful by inhalation. Irritating to skin, eyes and mucous membranes.	3054
–	T4	TP1	F-A, S-B	Category A	SG35	Colourless, slightly viscous liquid with a mild odour. Miscible with water. Harmful if swallowed or by inhalation. Corrosive to skin, eyes and mucous membranes.	3055
–	T2	TP1	F-E, S-D	Category A	–	Colourless or pale yellow, oily liquid with a pungent odour. Flashpoint: 35°C to 45°C c.c. Explosive limits: 1.1% to 5.2%. Slightly soluble in water. Irritating to skin, eyes and mucous membranes.	3056
–	T50	TP21	F-C, S-U	Category D SW2	–	Liquefied, non-flammable, toxic and corrosive gas. Reacts with water. Corrosive to glass and to most metals, including steel. Heavier than air (1.4 at 20°C). Highly irritating to skin, eyes and mucous membranes.	3057
–	–	–	F-E, S-D	Category E	–	Immiscible with water. Ignites readily. When involved in a fire, evolves toxic nitrous fumes. Not explosive in this state but damage to, or leakage from, a package may allow solvent to evaporate and thus leave the nitroglycerin in an explosive state.	3064
–	T4	TP1	F-E, S-D	Category A	–	Aqueous solutions of ethanol produced and supplied as alcoholic beverages. Miscible with water. Flashpoint: –13°C c.c. or greater.	3065
–	T2	TP1	F-E, S-D	Category A	–	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 L and not more than 500 L meeting the general requirements of 4.1.1, as appropriate, on the following conditions: .1 the wooden barrels should be checked and tightened before filling; .2 sufficient ullage (not less than 3%) should be left to allow for the expansion of the liquid; .3 the wooden barrels should be transported with the bungholes pointing upwards; .4 the wooden barrels should be transported in containers meeting the requirements of the <i>International Convention for Safe Containers</i> , 1972 (CSC Convention), as amended. Each wooden barrel should be secured in custom-made cradles and should be wedged by appropriate means to prevent them from being displaced in any way during transport; and .5 when carried on board ships, the containers should 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.	3065
–	T7	TP2 TP28	F-A, S-B	Category B SW2	–	Corrosive content. Causes burns to skin, eyes and mucous membranes.	3066

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3066	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	8	–	III	163 223 367	5 L	E1	P001	–	IBC03	–
△ 3070	ETHYLENE OXIDE AND DICHLORODIFLUORO-METHANE MIXTURE with not more than 12.5% ethylene oxide	2.2	–	–	392	120 mL	E1	P200	–	–	–
3071	MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.	6.1	3	II	274	100 mL	E4	P001	–	IBC02	–
3072	LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment	9	–	–	296	0	E0	P905	–	–	–
3073	VINYLPYRIDINES, STABILIZED	6.1	3/8	II	386	100 mL	E4	P001	–	IBC01	–
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	9	–	III	274 335 966 967 969	5 kg	E1	P002 LP02	PP12	IBC08	B3
3078	CERIUM, turnings or gritty powder	4.3	–	II	–	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
△ 3079	METHACRYLONITRILE, STABILIZED	6.1	3	I	354 386	0	E0	P602	–	–	–
3080	ISOCYANATES, TOXIC, FLAMMABLE, N.O.S or ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.	6.1	3	II	274	100 mL	E4	P001	–	IBC02	–
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	–	III	274 335 969	5 L	E1	P001 LP01	PP1	IBC03	–
3083	PERCHLORYL FLUORIDE	2.3	5.1	–	–	0	E0	P200	–	–	–
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	5.1	I	274	0	E0	P002	–	–	–
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	5.1	II	274	1 kg	E2	P002	–	IBC06	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1 TP29	F-A, S-B	Category A SW2	–	Corrosive content. Causes burns to skin, eyes and mucous membranes.	3066
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas. Much heavier than air.	3070
–	T11	TP2 TP13 TP27	F-E, S-D	Category C SW2	SG57	Colourless to yellow flammable liquids with a garlic odour. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	3071
–	–	–	F-A, <u>S-V</u>	Category A	SG18 SG71	These articles may contain: .1 class 2.2 compressed gases; .2 signal devices (class 1) which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings; .3 electric storage batteries; .4 first aid kit; or .5 “strike anywhere” matches.	3072
–	T7	TP2 TP13	F-E, S-C	Category C SW1 SW2	SGG18 SG5 SG8 SG35	Colourless to straw-coloured flammable liquids. Flashpoint: 42°C to 51°C c.c. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes. React violently with acids.	3073
–	T1 BK1 BK2 BK3	TP33	F-A, S-F	Category A SW23	–	–	3077
–	T3	TP33	F-G, S-O	Category E H1	SGG15 SG26 SG35	Grey, ductile metal or powder. Decomposes in water and reacts violently with acids, evolving hydrogen, which may be ignited by the heat of the reaction.	3078
–	T20	TP2 TP13	F-E, S-D	Category D SW1 SW2	–	Colourless, mobile liquid with a pungent odour. Flashpoint: 4°C c.c. Explosive limits: 3% to 17%. Partially miscible with water. Highly toxic if swallowed, by skin contact or by inhalation. Practice has shown that this substance may leak from packagings that ordinarily are leakproof to other chemicals.	3079
–	T11	TP2 TP13 TP27	F-E, S-D	Category D SW1 SW2	–	Flammable liquids or solutions with a pungent odour. Immiscible with or insoluble in water, but react with it to form carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	3080
–	T4	TP1 TP29	F-A, S-F	Category A	–	–	3082
–	–	–	F-C, S-W	Category D SW2	–	Non-flammable, toxic, colourless gas with a characteristic sweet odour. Strong oxidizing agent; may cause fire in contact with organic materials. Reacts with water or moist air to produce toxic and corrosive fumes. Mixtures with oils or combustible materials may explode. Much heavier than air (3.6). Irritating to skin, eyes and mucous membranes.	3083
–	T6	TP33	F-A, S-Q	Category C	–	Causes burns to skin, eyes and mucous membranes.	3084
–	T3	TP33	F-A, S-Q	Category C	–	See entry above.	3084

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	8	I	274	0	E0	P503	–	–	–
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	8	II	274	1 kg	E2	P002	–	IBC06	B21
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	8	III	223 274	5 kg	E1	P002	–	IBC08	B3
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	5.1	I	274	0	E5	P002	–	–	–
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	5.1	II	274	500 g	E4	P002	–	IBC06	B21
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	6.1	I	274 900	0	E0	P503	–	–	–
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	6.1	II	274 900	1 kg	E2	P002	–	IBC06	B21
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	6.1	III	223 274 900	5 kg	E1	P002	–	IBC08	B3
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	–	II	274	0	E2	P410	PP31	IBC06	B21
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	–	III	223 274	0	E1	P002 LP02	PP31	IBC08	B3
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	–	II	–	1 kg	E2	P002	PP100	IBC08	B4 B21
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	–	III	223	5 kg	E1	P002	PP100	IBC08	B4 B21
△ 3090	LITHIUM METAL BATTERIES (including lithium alloy batteries)	9	–	–	188 230 310 376 377 384 387	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906	–	–	–
△ 3091	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)	9	–	–	188 230 310 360 376 377 384 387 390	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906	–	–	–
3092	1-METHOXY-2-PROPANOL	3	–	III	–	5 L	E1	P001 LP01	–	IBC03	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-Q	Category D H1	SG38 SG49 SG60	Causes burns to skin, eyes and mucous membranes. Particular care in handling should be exercised if packages have become wetted.	3085
–	T3	TP33	F-A, S-Q	Category B H1	SG38 SG49 SG60	See entry above.	3085
–	T1	TP33	F-A, S-Q	Category B H1	SG38 SG49 SG60	See entry above.	3085
–	T6	TP33	F-A, S-Q	Category C	–	Toxic if swallowed, by skin contact or by inhalation.	3086
–	T3	TP33	F-A, S-Q	Category C	–	See entry above.	3086
–	–	–	F-A, S-Q	Category D	SG38 SG49 SG60	Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.	3087
–	T3	TP33	F-A, S-Q	Category B	SG38 SG49 SG60	See entry above.	3087
–	T1	TP33	F-A, S-Q	Category B	SG38 SG49 SG60	See entry above.	3087
–	T3	TP33	F-A, S-J	Category C	–	Liable to self-heating or spontaneous combustion.	3088
–	T1	TP33	F-A, S-J	Category C	–	See entry above.	3088
–	T3	TP33	F-G, S-G	Category B H1	SGG7 SGG15 SG17 SG25 SG26	–	3089
–	T1	TP33	F-G, S-G	Category A H1	SGG7 SGG15 SG17 SG25 SG26	–	3089
–	–	–	F-A, S-I	Category A SW19	–	Electrical batteries containing lithium encased in a rigid metallic body. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.	3090 △
–	–	–	F-A, S-I	Category A SW19	–	Electrical lithium batteries containing lithium encased in a rigid metallic body may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.	3091 △
–	T2	TP1	F-E, S-D	Category A	–	Colourless liquid. Flashpoint: 29°C to 35°C c.c. Explosive limits: 1.7% to 11.5%. Miscible with water. Reacts with strong oxidizing substances. Irritating to skin, eyes and mucous membranes.	3092

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3093	CORROSIVE LIQUID, OXIDIZING, N.O.S.	8	5.1	I	274	0	E0	P001	–	–	–
3093	CORROSIVE LIQUID, OXIDIZING, N.O.S.	8	5.1	II	274	1 L	E2	P001	–	IBC02	–
3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.	8	4.3	I	274	0	E0	P001	–	–	–
3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.	8	4.3	II	274	500 mL	E2	P001	–	–	–
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	8	4.2	I	274	0	E0	P002	–	–	–
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	8	4.2	II	274	1 kg	E2	P002	–	IBC06	B21
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	4.3	I	274	0	E0	P002	–	–	–
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	4.3	II	274	1 kg	E2	P002	PP100	IBC06	B21
△ 3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	5.1	II	274 976	0	E0	P099	–	–	–
△ 3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	5.1	III	274 976	0	E0	P099	–	–	–
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	8	I	274	0	E0	P502	–	–	–
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	8	II	274	1 L	E2	P504	–	IBC01	–
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	8	III	223 274	5 L	E1	P504	–	IBC02	–
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	6.1	I	274	0	E0	P502	–	–	–
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	6.1	II	274	1 L	E2	P504	–	IBC01	–
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	6.1	III	223 274	5 L	E1	P504	–	IBC02	–
△ 3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.	5.1	4.2	I	274 976	0	E0	P099	–	–	–
△ 3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.	5.1	4.2	II	274 976	0	E0	P099	–	–	–
3101	ORGANIC PEROXIDE TYPE B, LIQUID	5.2	See SP181	–	122 181 195 274	25 mL	E0	P520	–	–	–
3102	ORGANIC PEROXIDE TYPE B, SOLID	5.2	See SP181	–	122 181 195 274	100 g	E0	P520	–	–	–
3103	ORGANIC PEROXIDE TYPE C, LIQUID	5.2	–	–	122 195 274	25 mL	E0	P520	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-Q	Category C	–	Causes burns to skin, eyes and mucous membranes.	3093
–	–	–	F-A, S-Q	Category C	–	See entry above.	3093
–	–	–	F-G, S-L	Category D H1	SG26	Causes burns to skin, eyes and mucous membranes.	3094
–	–	–	F-G, S-L	Category D H1	SG26	See entry above.	3094
–	T6	TP33	F-A, S-N	Category D	–	Causes burns to skin, eyes and mucous membranes.	3095
–	T3	TP33	F-A, S-N	Category D	–	See entry above.	3095
–	T6	TP33	F-G, S-L	Category D H1	SG26	Causes burns to skin, eyes and mucous membranes.	3096
–	T3	TP33	F-G, S-L	Category D H1	SG26	See entry above.	3096
–	–	–	F-A, S-Q	–	–	–	3097
–	T1	TP33	F-A, S-Q	–	–	–	3097
–	–	–	F-A, S-Q	Category D H1	SG38 SG49 SG60	Causes burns to skin, eyes and mucous membranes. Particular care in handling should be exercised if packages have become wetted.	3098
–	–	–	F-A, S-Q	Category B H1	SG38 SG49 SG60	See entry above.	3098
–	–	–	F-A, S-Q	Category B H1	SG38 SG49 SG60	See entry above.	3098
–	–	–	F-A, S-Q	Category D	SG38 SG49 SG60	Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.	3099
–	–	–	F-A, S-Q	Category B	SG38 SG49 SG60	See entry above.	3099
–	–	–	F-A, S-Q	Category B	SG38 SG49 SG60	See entry above.	3099
–	–	–	F-A, S-Q	–	–	–	3100
–	–	–	F-A, S-Q	–	–	–	3100
–	–	–	F-J, S-R	Category D SW1	SG1 SG35 SG36 SG72	May explode at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3101
–	–	–	F-J, S-R	Category D SW1	SG1 SG35 SG36 SG72	May explode at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. Addition of water to disuccinic acid peroxide will decrease its thermal stability. May evolve irritant or toxic fumes.	3102
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	May decompose violently at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for <i>tert</i> -butyl hydroperoxide. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3103



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3104	ORGANIC PEROXIDE TYPE C, SOLID	5.2	–	–	122 195 274	100 g	E0	P520	–	–	–
3105	ORGANIC PEROXIDE TYPE D, LIQUID	5.2	–	–	122 274	125 mL	E0	P520	–	–	–
3106	ORGANIC PEROXIDE TYPE D, SOLID	5.2	–	–	122 274	500 g	E0	P520	–	–	–
3107	ORGANIC PEROXIDE TYPE E, LIQUID	5.2	–	–	122 274	125 mL	E0	P520	–	–	–
3108	ORGANIC PEROXIDE TYPE E, SOLID	5.2	–	–	122 274	500 g	E0	P520	–	–	–
3109	ORGANIC PEROXIDE TYPE F, LIQUID	5.2	–	–	122 274	125 mL	E0	P520	–	IBC520	–
3110	ORGANIC PEROXIDE TYPE F, SOLID	5.2	–	–	122 274	500 g	E0	P520	–	IBC520	–
3111	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED	5.2	See SP181	–	122 181 195 274 923	0	E0	P520	–	–	–
3112	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	5.2	See SP181	–	122 181 195 274 923	0	E0	P520	–	–	–
3113	ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED	5.2	–	–	122 195 274 923	0	E0	P520	–	–	–
3114	ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED	5.2	–	–	122 195 274 923	0	E0	P520	–	–	–
3115	ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	May decompose violently at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3104
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for acetylacetone peroxide, <i>tert</i> -butyl hydroperoxide and peroxyacetic acid, type D, stabilized. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3105
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water except for 3-chloroperoxybenzoic acid. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3106
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for <i>tert</i> -amyl hydroperoxide, and <i>tert</i> -butyl hydroperoxide and peroxyacetic acid, type E, stabilized. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3107
–	–	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3108
–	T23	–	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for <i>tert</i> -butyl hydroperoxide; dibenzoyl peroxide; dilauroyl peroxide and peroxyacetic acid, type F, stabilized. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3109
–	T23	TP33	F-J, S-R	Category D SW1	SG35 SG36 SG72	Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.	3110
–	–	–	F-F, S-R	Category D SW1 SW3	SG1 SG35 SG36 SG72	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3111
–	–	–	F-F, S-R	Category D SW1 SW3	SG1 SG35 SG36 SG72	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3112
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	May decompose violently at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3113
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	May decompose violently at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3114
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3115



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3116	ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	–	–
3117	ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	–	–
3118	ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	–	–
3119	ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	IBC520	–
3120	ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED	5.2	–	–	122 274 923	0	E0	P520	–	IBC520	–
△ 3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.	5.1	4.3	I	274 976	0	E0	P099	–	–	–
△ 3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.	5.1	4.3	II	274 976	0	E0	P099	–	–	–
3122	TOXIC LIQUID, OXIDIZING, N.O.S.	6.1	5.1	I	274 315	0	E0	P001	–	–	–
3122	TOXIC LIQUID, OXIDIZING, N.O.S.	6.1	5.1	II	274	100 mL	E4	P001	–	IBC02	–
3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	6.1	4.3	I	274 315	0	E0	P099	–	–	–
3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	6.1	4.3	II	274	100 mL	E4	P001	–	IBC02	–
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	4.2	I	274	0	E5	P002	–	–	–
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	4.2	II	274	0	E4	P002	–	IBC06	B21
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	4.3	I	274	0	E5	P099	–	–	–
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	4.3	II	274	500 g	E4	P002	PP100	IBC06	B21
△ 3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	8	II	274	0	E2	P410	–	IBC05	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water except for diperoxyazelaic acid. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3116
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3117
–	–	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water except for di-(2-ethylhexyl) peroxydicarbonate. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3118
–	T23	–	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water except for di-(4- <i>tert</i> -butylcyclohexyl) peroxydicarbonate, dicetyl peroxydicarbonate and dimyristyl peroxydicarbonate. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3119
–	T23	TP33	F-F, S-R	Category D SW1 SW3	SG35 SG36 SG72	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water. Contact with the eyes and skin should be avoided. Control and emergency temperatures for each formulation are given in the table 2.5.3.2.4. The temperature should be checked regularly. May evolve irritant or toxic fumes.	3120
–	–	–	F-G, S-L	H1	SG26	–	3121
–	–	–	F-G, S-L	H1	SG26	–	3121
–	–	–	F-A, S-Q	Category C	–	Toxic if swallowed, by skin contact or by inhalation.	3122
–	–	–	F-A, S-Q	Category C	–	See entry above.	3122
–	–	–	F-G, S-N	Category D SW2 H1	SG26	Toxic if swallowed, by skin contact or by inhalation.	3123
–	–	–	F-G, S-N	Category D SW2 H1	SG26	See entry above.	3123
–	T6	TP33	F-A, S-J	Category D SW2	–	Highly toxic if swallowed, by skin contact or by inhalation.	3124
–	T3	TP33	F-A, S-J	Category D SW2	–	See entry above.	3124
–	T6	TP33	F-G, S-N	Category D SW2 H1	SG26	Toxic if swallowed, by skin contact or by inhalation.	3125
–	T3	TP33	F-G, S-N	Category D SW2 H1	SG26	See entry above.	3125
–	T3	TP33	F-A, S-J	Category C	–	–	3126

Part 3 – Dangerous Goods List, special provisions and exceptions

Chapter 3.2 – Dangerous Goods List

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	8	III	223 274	0	E1	P002	–	IBC08	B3
△ 3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	5.1	II	274 976	0	E0	P099	–	–	–
△ 3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.	4.2	5.1	III	223 274 976	0	E0	P099	–	–	–
△ 3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	6.1	II	274	0	E2	P410	–	IBC05	B21
△ 3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	6.1	III	223 274	0	E1	P002	–	IBC08	B3
△ 3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	8	I	274	0	E0	P402	–	–	–
△ 3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	8	II	274	0	E0	P402	–	IBC01	–
△ 3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	8	III	223 274	0	E1	P001	–	IBC02	–
△ 3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	I	274	0	E0	P402	–	–	–
△ 3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	II	274	0	E0	P402	–	IBC01	–
△ 3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	III	223 274	0	E1	P001	–	IBC02	–
△ 3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	8	I	274	0	E0	P403	PP31	–	–
△ 3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	8	II	274	0	E2	P410	PP31 PP40	IBC06	B21
△ 3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	8	III	223 274	0	E1	P410	PP31	IBC08	B4
△ 3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	4.1	I	274	0	E0	P403	PP31	IBC99	–
△ 3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	4.1	II	274	0	E2	P410	PP31 PP40	IBC04	–
△ 3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	4.1	III	223 274	0	E1	P410	PP31	IBC06	–
△ 3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	4.3	5.1	II	274 976	0	E0	P099	–	–	–
△ 3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	4.3	5.1	III	223 274 976	0	E0	P099	–	–	–
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	6.1	I	274	0	E0	P403	PP31	–	–
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	6.1	II	274	500 g	E2	P410	PP31 PP40	IBC05	B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-J	Category C	–	–	3126 △
–	T3	TP33	F-A, S-J	–	–	–	3127 △
–	T1	TP33	F-A, S-J	–	–	–	3127 △
–	T3	TP33	F-A, S-J	Category C	–	–	3128 △
–	T1	TP33	F-A, S-J	Category C	–	–	3128 △
–	T14	TP2 TP7 TP13	F-G, S-N	Category D H1	SG26	–	3129 △
–	T11	TP2 TP7	F-G, S-N	Category E SW5 H1	SG26	–	3129 △
–	T7	TP2 TP7	F-G, S-N	Category E SW5 H1	SG26	–	3129 △
–	–	–	F-G, S-N	Category D H1	SG26	–	3130 △
–	–	–	F-G, S-N	Category E SW5 H1	SG26	–	3130 △
–	–	–	F-G, S-N	Category E SW5 H1	SG26	–	3130 △
–	T9	TP7 TP33	F-G, S-L	Category D H1	SG26	–	3131 △
–	T3	TP33	F-G, S-L	Category E SW5 H1	SG26	–	3131 △
–	T1	TP33	F-G, S-L	Category E SW5 H1	SG26	–	3131 △
–	–	–	F-G, S-N	Category D H1	SG26	–	3132 △
–	T3	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3132 △
–	T1	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3132 △
–	–	–	F-G, S-L	H1	SG26	–	3133 △
–	–	–	F-G, S-L	H1	SG26	–	3133 △
–	–	–	F-G, S-N	Category D H1	SG26	–	3134
–	T3	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3134

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	6.1	III	223 274	1 kg	E1	P410	PP31	IBC08	B4
△ 3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	4.2	I	274	0	E0	P403	PP31	–	–
△ 3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	4.2	II	274	0	E2	P410	PP31	IBC05	B21
△ 3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	4.2	III	223 274	0	E1	P410	PP31	IBC08	B4
3136	TRIFLUOROMETHANE, REFRIGERATED LIQUID	2.2	–	–	–	120 mL	E1	P203	–	–	–
△ 3137	OXIDIZING SOLID, FLAMMABLE, N.O.S.	5.1	4.1	I	274 976	0	E0	P099	–	–	–
3138	ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene, with not more than 22.5% acetylene and not more than 6% propylene	2.1	–	–	–	0	E0	P203	–	–	–
3139	OXIDIZING LIQUID, N.O.S.	5.1	–	I	274	0	E0	P502	–	–	–
3139	OXIDIZING LIQUID, N.O.S.	5.1	–	II	274	1 L	E2	P504	–	IBC02	–
3139	OXIDIZING LIQUID, N.O.S.	5.1	–	III	223 274	5 L	E1	P504	–	IBC02	–
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOIDS SALTS, LIQUID, N.O.S.	6.1	–	I	43 274	0	E5	P001	–	–	–
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOIDS SALTS, LIQUID, N.O.S.	6.1	–	II	43 274	100 mL	E4	P001	–	IBC02	–
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOIDS SALTS, LIQUID, N.O.S.	6.1	–	III	43 223 274	5 L	E1	P001 LP01	–	IBC03	–
3141	ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.	6.1	–	III	45 274	5 L	E1	P001 LP01	–	IBC03	–
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P001	–	–	–
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3134
–	–	–	<u>F-G</u> , S-N	Category D H1	SG26	–	3135
–	T3	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3135
–	T1	TP33	F-G, S-N	Category E SW5 H1	SG26	–	3135
–	T75	TP5	F-C, S-V	Category D	–	Liquefied, non-flammable gas. Much heavier than air (2.4).	3136
–	–	–	F-G, S-Q	H1	SG25 SG26	–	3137
–	T75	TP5	<u>F-D</u> , S-U	Category D SW2	SG46	Liquefied, flammable, colourless mixture of gases with a garlic odour. Explosive limits: 2.7% to 36%. Lighter than air (0.96).	3138
–	–	–	F-A, S-Q	Category D	SG38 SG49 SG60	–	3139
–	–	–	F-A, S-Q	Category B	SG38 SG49 SG60	–	3139
–	–	–	F-A, S-Q	Category B	SG38 SG49 SG60	–	3139
–	–	–	F-A, S-A	Category A	–	A wide range of toxic liquids, generally of vegetable origin. Toxic if swallowed, by skin contact or by inhalation.	3140
–	–	–	F-A, S-A	Category A	–	See entry above.	3140
–	–	–	F-A, S-A	Category A	–	See entry above.	3140
–	–	–	F-A, S-A	Category A	–	A wide range of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	3141
–	–	–	F-A, S-A	Category A SW2	–	A wide range of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	3142
–	–	–	F-A, S-A	Category A SW2	–	See entry above.	3142
–	–	–	F-A, S-A	Category A SW2	–	See entry above.	3142
–	T6	TP33	F-A, S-A	Category A	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by inhalation.	3143
–	T3	TP33	F-A, S-A	Category A	–	See entry above.	3143

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	–	I	43 274	0	E5	P001	–	–	–
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	–	II	43 274	100 mL	E4	P001	–	IBC02	–
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	–	III	43 223 274	5 L	E1	P001 LP01	–	IBC03	–
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	I	–	0	E0	P001	–	–	–
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	II	–	1 L	E2	P001	–	IBC02	–
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	– P	I	43 274	0	E5	P002	–	IBC07	B1
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	– P	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	– P	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
△ 3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	–	I	274	0	E0	P402	PP31	–	–
3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	–	II	274	500 mL	E2	P402	PP31	IBC01	–
3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	–	III	223 274	1 L	E1	P001	PP31	IBC02	–
3149	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED	5.1	8	II	196	1 L	E2	P504	PP10	IBC02	B5
3150	DEVICES, SMALL, HYDROCARBON GAS POWERED or HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device	2.1	–	–	–	0	E0	P003	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T1	TP33	F-A, S-A	Category A	–	A wide range of toxic solids. Toxic if swallowed, by skin contact or by inhalation.	3143
–	–	–	F-A, S-A	Category B SW2	–	A wide variety of toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	3144
–	–	–	F-A, S-A	Category B SW2	–	See entry above.	3144
–	–	–	F-A, S-A	Category B SW2	–	See entry above.	3144
–	T14	TP2	F-A, S-B	Category B	–	A wide range of colourless to pale straw-coloured liquids with penetrating odours (sometimes camphor-like). Liquids slightly miscible with water. Cause burns to skin, eyes and mucous membranes.	3145
–	T11	TP2 TP27	F-A, S-B	Category B	–	See entry above.	3145
–	T7	TP1 TP28	F-A, S-B	Category A	–	See entry above.	3145
–	T6	TP33	F-A, <u>S-A</u>	Category B SW2	–	A wide variety of toxic solids. Toxic if swallowed, by skin contact or by inhalation.	3146
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	3146
–	T1	TP33	F-A, <u>S-A</u>	Category A SW2	–	See entry above.	3146
–	T6	TP33	F-A, S-B	Category A	–	A wide range of corrosive solids or pastes. Cause burns to skin, eyes and mucous membranes.	3147
–	T3	TP33	F-A, S-B	Category A	–	See entry above.	3147
–	T1	TP33	F-A, S-B	Category A	–	See entry above.	3147
–	T13	TP2 TP7	<u>F-G</u> , S-N	Category E SW2 H1	SG26	–	3148
–	T7	TP2 TP7	F-G, S-N	Category E SW2 H1	SG26	–	3148
–	T7	TP2 TP7	F-G, S-N	Category E SW2 H1	SG26	–	3148
–	T7	TP2 TP6 TP24	F-H, S-Q	Category D SW1	SGG16 SG16 SG59 SG72	Colourless liquid. Carried as an aqueous solution. Slowly decomposes, evolving oxygen; the rate of decomposition increases on contact with most metals. In contact with combustible material, may cause fire. Causes burns to skin, eyes and mucous membranes. Even though stabilized, these solutions may evolve oxygen.	3149
–	–	–	F-D, S-U	Category B SW2	–	Various small devices used for cosmetic and other purposes, and their refills.	3150

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3151	POLYHALOGENATED BIPHENYLS, LIQUID or HALOGENATED MONOMETHYL-DIPHENYLMETHANES, LIQUID or POLYHALOGENATED TERPHENYLS, LIQUID	9	– P	II	203 305	1 L	E2	P906	–	IBC02	–
3152	POLYHALOGENATED BIPHENYLS, SOLID or HALOGENATED MONOMETHYL-DIPHENYLMETHANES, SOLID or POLYHALOGENATED TERPHENYLS, SOLID	9	– P	II	203 305 958	1 kg	E2	P906	–	IBC08	B4 B21
3153	PERFLUORO(METHYL VINYL ETHER)	2.1	–	–	–	0	E0	P200	–	–	–
3154	PERFLUORO(ETHYL VINYL ETHER)	2.1	–	–	–	0	E0	P200	–	–	–
3155	PENTACHLOROPHENOL	6.1	– P	II	43	500 g	E4	P002	–	IBC08	B4 B21
3156	COMPRESSED GAS, OXIDIZING, N.O.S.	2.2	5.1	–	274	0	E0	P200	–	–	–
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.	2.2	5.1	–	274	0	E0	P200	–	–	–
3158	GAS, REFRIGERATED LIQUID, N.O.S.	2.2	–	–	274	120 mL	E1	P203	–	–	–
3159	1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134a)	2.2	–	–	–	120 mL	E1	P200	–	–	–
3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.	2.3	2.1	–	274	0	E0	P200	–	–	–
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.	2.1	–	–	274	0	E0	P200	–	–	–
3162	LIQUEFIED GAS, TOXIC, N.O.S.	2.3	–	–	274	0	E0	P200	–	–	–
△ 3163	LIQUEFIED GAS, N.O.S.	2.2	–	–	274 392	120 mL	E1	P200	–	–	–
△ 3164	ARTICLES, PRESSURIZED, PNEUMATIC or HYDRAULIC (containing non-flammable gas)	2.2	–	–	283 371	120 mL	E0	P003	PP32	–	–
3165	AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel)	3	6.1/8	I	–	0	E0	P301	–	–	–
3166	VEHICLE, FLAMMABLE GAS POWERED or VEHICLE, FLAMMABLE LIQUID POWERED or VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED	9	–	–	356 388 961 962	–	–	–	–	–	–
3167	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid	2.1	–	–	209	0	E0	P201	–	–	–
3168	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid	2.3	2.1	–	209	0	E0	P201	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, <u>S-A</u>	Category A	SG50	Viscous liquids with a perceptible odour. Harmful by ingestion or by skin contact. This entry also covers articles, such as transformers and condensers, containing free liquid polyhalogenated biphenyls or polyhalogenated terphenyls.	3151
–	T3	TP33	F-A, <u>S-A</u>	Category A	SG50	Solid with a perceptible odour. Melting point of solids varies from 2°C to 164°C. Harmful by ingestion or by skin contact. This entry also covers articles, such as rags, cotton waste, clothing or sawdust, containing polyhalogenated biphenyls or polyhalogenated terphenyls where no free visible liquid is present.	3152
–	T50	–	F-D, S-U	Category E SW2	–	Explosive limits: 7% to 73%. Much heavier than air (4.8). Boiling point: –27°C.	3153
–	–	–	F-D, S-U	Category E SW2	–	Explosive limits: 7% to 73%. Much heavier than air (6.4). Boiling point: 12°C.	3154
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Toxic if swallowed, by skin contact or by dust inhalation.	3155
–	–	–	<u>F-C</u> , S-W	Category D	–	–	3156
–	–	–	<u>F-C</u> , S-W	Category D	–	–	3157
–	T75	TP5	F-C, S-V	Category D	–	–	3158
–	T50	–	F-C, S-V	Category A	–	Non-flammable gas with a mild ether-like odour. Much heavier than air (3.5).	3159
–	–	–	<u>F-D</u> , S-U	Category D SW2	–	–	3160
–	T50	–	F-D, S-U	Category D SW2	–	–	3161
–	–	–	F-C, S-U	Category D SW2	–	–	3162
–	T50	–	F-C, S-V	Category A	–	–	3163
–	–	–	F-C, S-V	Category A	–	Articles containing non-flammable, non-toxic gas necessary for their operation.	3164
–	–	–	F-E, S-C	Category D SW2	SG5 SG8 SG13	The mixture is miscible with water and may react dangerously with oxidizing substances. The mixture is highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3165
–	–	–	*	Category A	–	Types of articles transported under this entry include, but are not limited to motor vehicles, hybrid vehicles, fuel cell powered vehicles, motorcycles and boats. *F-D, S-U for gases or F-E, S-E for liquids.	3166
–	–	–	F-D, S-U	Category D	–	–	3167
–	–	–	F-D, S-U	Category D	–	–	3168



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3169	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid	2.3	–	–	209	0	E0	P201	–	–	–
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	–	II	244	500 g	E2	P410	PP31 PP40	IBC07	B4 B21
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	–	III	223 244	1 kg	E1	P002	PP31	IBC08	B4
3171	BATTERY-POWERED VEHICLE or BATTERY-POWERED EQUIPMENT	9	–	–	388 961 962 971	–	–	–	–	–	–
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	–	I	210 274	0	E5	P001	–	–	–
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	–	II	210 274	100 mL	E4	P001	–	IBC02	–
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	–	III	210 223 274	5 L	E1	P001 LP01	–	IBC03	–
3174	TITANIUM DISULPHIDE	4.2	–	III	–	0	E1	P002 LP02	PP31	IBC08	B3
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.	4.1	–	II	216 274	1 kg	E2	P002	PP9	IBC06	B21
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.	4.1	–	II	274	0	E0	–	–	–	–
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.	4.1	–	III	223 274	0	E0	–	–	–	–
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	6.1	II	274	1 kg	E2	P002	–	IBC06	B21
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	6.1	III	223 274	5 kg	E1	P002	–	IBC06	–
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	8	II	274	1 kg	E2	P002	–	IBC06	B21
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	8	III	223 274	5 kg	E1	P002	–	IBC06	–
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	–	II	274	1 kg	E2	P002	PP31	IBC08	B4 B21
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	–	III	223 274	5 kg	E1	P002 LP02	PP31	IBC08	B3
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	–	II	274	1 kg	E2	P410	PP31 PP40	IBC04	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-C, S-U	Category D	–	–	3169
–	T3 BK2	TP33	F-G, S-P	Category B SW5 H1	SGG15 SG26	Grey powder or lumps with some metallic inclusions. Contact with water may cause heating with possible evolution of flammable and toxic gases such as hydrogen and ammonia. This entry includes e.g. aluminium dross, aluminium skimmings, spent cathodes, spent potliner and aluminium salt slags.	3170
–	T1 BK2	TP33	F-G, S-P	Category B SW5 H1	SGG15 SG26	See entry above.	3170
–	–	–	F-A, S-I	Category A	–	Types of articles transported under this entry include vehicles or equipment powered by wet batteries, sodium batteries or lithium batteries with the batteries installed, such as electrically-powered cars, lawnmowers, wheelchairs and other mobility aids.	3171
–	–	–	F-A, S-A	Category B	–	Toxins from plant, animal or bacterial sources which contain infectious substances or toxins that are contained in infectious substances should be classified in class 6.2. Toxic if swallowed, by skin contact or by inhalation.	3172
–	–	–	F-A, S-A	Category B	–	See entry above.	3172
–	–	–	F-A, S-A	Category A	–	See entry above.	3172
–	T1	TP33	F-A, S-J	Category A	SGG7	Yellow or grey powder with an unpleasant odour. In contact with water slowly evolves hydrogen sulphide gas.	3174
–	T3 BK2	TP33	F-A, S-I	Category B	–	Mixtures of non-dangerous solids (such as soil, sand, production materials, etc.) and flammable liquids.	3175
–	T3	TP3 TP26	F-A, S-H	Category C	–	Shipped molten above its melting point.	3176
–	T1	TP3 TP26	F-A, S-H	Category C	–	See entry above.	3176
–	T3	TP33	F-A, S-G	Category B	–	–	3178
–	T1	TP33	F-A, S-G	Category B	–	–	3178
–	T3	TP33	F-A, S-G	Category B SW2	–	Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.	3179
–	T1	TP33	F-A, S-G	Category B SW2	–	See entry above.	3179
–	T3	TP33	F-A, S-G	Category D SW2	–	Causes burns to skin, eyes and mucous membranes.	3180
–	T1	TP33	F-A, S-G	Category D SW2	–	See entry above.	3180
–	T3	TP33	F-A, S-I	Category B SW2	SGG7	Decomposes in water. Liable to spontaneous heating. Irritating to skin and mucous membranes.	3181
–	T1	TP33	F-A, S-I	Category B SW2	SGG7	See entry above.	3181
–	T3	TP33	F-A, S-G	Category E	–	–	3182

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	–	III	223 274	5 kg	E1	P002	PP31	IBC04	–
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.	4.2	–	II	274	0	E2	P001	PP31	IBC02	–
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.	4.2	–	III	223 274	0	E1	P001	PP31	IBC02	–
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	4.2	6.1	II	274	0	E2	P402	PP31	IBC02	–
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	4.2	6.1	III	223 274	0	E1	P001	PP31	IBC02	–
3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	4.2	8	II	274	0	E2	P402	PP31	IBC02	–
3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	4.2	8	III	223 274	0	E1	P001	PP31	IBC02	–
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.	4.2	–	II	274	0	E2	P001	PP31	IBC02	–
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.	4.2	–	III	223 274	0	E1	P001	PP31	IBC02	–
3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	4.2	6.1	II	274	0	E2	P402	PP31	IBC02	–
3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	4.2	6.1	III	223 274	0	E1	P001	PP31	IBC02	–
3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	4.2	8	II	274	0	E2	P402	PP31	IBC02	–
3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	4.2	8	III	223 274	0	E1	P001	PP31	IBC02	–
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	–	II	274	0	E2	P410	PP31	IBC06	B21
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	–	III	223 274	0	E1	P002 LP02	PP31 L4	IBC08	B4
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	–	II	274	0	E2	P410	PP31	IBC06	B21
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	–	III	223 274	0	E1	P002 LP02	PP31	IBC08	B3
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	6.1	II	274	0	E2	P410	–	IBC05	B21
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	6.1	III	223 274	0	E1	P002	–	IBC08	B3
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	8	II	274	0	E2	P410	–	IBC05	B21
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	8	III	274	0	E1	P002	–	IBC08	B3
3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.	4.2	–	I	274	0	E0	P400	–	–	–
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.	4.2	–	I	274	0	E0	P404	PP31	–	–
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	–	II	183 274	0	E2	P410	PP31	IBC06	B21

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T1	TP33	F-A, S-G	Category E	–	–	3182
–	–	–	F-A, S-J	Category C	–	–	3183
–	–	–	F-A, S-J	Category C	–	–	3183
–	–	–	F-A, S-J	Category C	–	–	3184
–	–	–	F-A, S-J	Category C	–	–	3184
–	–	–	F-A, S-J	Category C	–	–	3185
–	–	–	F-A, S-J	Category C	–	–	3185
–	–	–	F-A, S-J	Category C	–	–	3186
–	–	–	F-A, S-J	Category C	–	–	3186
–	–	–	F-A, S-J	Category C	–	–	3187
–	–	–	F-A, S-J	Category C	–	–	3187
–	–	–	F-A, S-J	Category C	–	–	3188
–	–	–	F-A, S-J	Category C	–	–	3188
–	T3	TP33	F-G, S-J	Category C H1	SGG7 SGG15 SG26	Forms explosive mixtures with oxidizing substances.	3189
–	T1	TP33	F-G, S-J	Category C H1	SGG7 SGG15 SG26	See entry above.	3189
–	T3	TP33	F-A, S-J	Category C	–	Liable to self-heating or spontaneous combustion.	3190
–	T1	TP33	F-A, S-J	Category C	–	See entry above.	3190
–	T3	TP33	F-A, S-J	Category C	–	–	3191
–	T1	TP33	F-A, S-J	Category C	–	–	3191
–	T3	TP33	F-A, S-J	Category C	–	–	3192
–	T1	TP33	F-A, S-J	Category C	–	–	3192
–	–	–	F-G, S-M	Category D H1	SG26 SG63	Highly flammable liquids, may ignite spontaneously in moist air. In contact with air, evolve irritating and slightly toxic fumes.	3194
–	T21	TP7 TP33	F-G, S-M	Category D H1	SG26	Liable to ignite spontaneously in air. If shaken, may produce sparks. In contact with water, evolve hydrogen, a flammable gas.	3200
–	T3	TP33	F-A, S-J	Category B	–	Free-flowing hygroscopic powders. Irritating to skin, eyes and mucous membranes.	3205

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	–	III	183 223 274	0	E1	P002 LP02	PP31	IBC08	B3
△ 3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	8	II	182 274	0	E2	P410	PP31	IBC05	B21
△ 3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	8	III	182 223 274	0	E1	P002	PP31	IBC08	B3
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	–	I	274	0	E0	P403	PP31	IBC99	–
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	–	II	274	500 g	E0	P410	PP31 PP40	IBC07	B4 B21
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	–	III	223 274	1 kg	E1	P410	PP31	IBC08	B4
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	4.2	I	274	0	E0	P403	PP31	–	–
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	4.2	II	274	0	E2	P410	PP31 PP40	IBC05	B21
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	4.2	III	223 274	0	E1	P410	PP31	IBC08	B4
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	274 351	1 L	E2	P504	–	IBC02	–
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	223 274 351	5 L	E1	P504	–	IBC02	–
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	–	1 L	E2	P504	–	IBC02	–
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	223	5 L	E1	P504	–	IBC02	–
3212	HYPOCHLORITES, INORGANIC, N.O.S.	5.1	–	II	274 349 900 903	1 kg	E2	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T1	TP33	F-A, S-J	Category B	–	Free-flowing hygroscopic powders. Irritating to skin, eyes and mucous membranes.	3205
–	T3	TP33	F-A, S-J	Category B	SGG18 SG35	Free-flowing hygroscopic powder. Cause burns to skin, eyes and mucous membranes.	3206
–	T1	TP33	F-A, S-J	Category B	SGG18 SG35	See entry above.	3206
–	–	–	F-G, S-N	Category E SW2 H1	SG26	–	3208
–	T3	TP33	F-G, S-N	Category E SW2 H1	SG26	–	3208
–	T1	TP33	F-G, S-N	Category E SW2 H1	SG26	–	3208
–	–	–	F-G, S-N	Category E SW2 H1	SG26	–	3209
–	T3	TP33	F-G, S-N	Category E SW2 H1	SG26	–	3209
–	T1	TP33	F-G, S-N	Category E SW2 H1	SG26	–	3209
–	T4	TP1	F-H, S-Q	Category B	SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion. Transport of ammonium chlorate, aqueous solution is <b>prohibited</b> .	3210
–	T4	TP1	F-H, S-Q	Category B	SG38 SG49 SG62	See entry above.	3210
–	T4	TP1	F-H, S-Q	Category B	SGG13 SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3211
–	T4	TP1	F-H, S-Q	Category B	SGG13 SG38 SG49 SG62	See entry above.	3211
–	T3	TP33	F-H, S-Q	Category D SW1 SW17	SGG8 SG35 SG38 SG49 SG53 SG60	Solids. Critical ambient temperature of decomposition may be as low as 60°C. May cause fire in contact with organic material or ammonium compounds. React with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Dust irritates mucous membranes. Transport of ammonium hypochlorite and mixtures of a hypochlorite with an ammonium salt is <b>prohibited</b> .	3212

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	274 350	1 L	E2	P504	–	IBC02	–
3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	223 274 350	5 L	E1	P504	–	IBC02	–
3214	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	274 353	1 L	E2	P504	–	IBC02	–
3215	PERSULPHATES, INORGANIC, N.O.S.	5.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3216	PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	–	5 L	E1	P504	–	IBC02	–
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	270	1 L	E2	P504	–	IBC02	–
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	223 270	5 L	E1	P504	–	IBC02	–
3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	II	274 900	1 L	E2	P504	–	IBC01	–
3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	–	III	223 274 900	5 L	E1	P504	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-H, S-Q	Category B	SGG3 SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion. Transport of ammonium bromate, aqueous solution is <b>prohibited</b> .	3213
–	T4	TP1	F-H, S-Q	Category B	SGG3 SG38 SG49 SG62	See entry above.	3213
–	T4	TP1	F-H, S-Q	Category D	SGG14 SG38 SG49 SG60 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion. Transport of ammonium permanganate, aqueous solution is <b>prohibited</b> .	3214
–	T1	TP33	F-A, S-Q	Category A	SG40 SG49	Solids. Solid mixtures with combustible material are sensitive to friction and are liable to ignite. React fiercely with cyanides when heated or by friction. May form explosive mixture with powdered metals or ammonium compounds.	3215
–	T4	TP1 TP29	F-A, S-Q	Category A	SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3216
–	T4	TP1	F-A, S-Q	Category B	SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3218
–	T4	TP1	F-A, S-Q	Category B	SG38 SG49 SG62	See entry above.	3218
–	T4	TP1	F-A, S-Q	Category B	SGG12 SG38 SG49 SG62	When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water of the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly with fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion; .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion. Transport of ammonium nitrites, aqueous solution is <b>prohibited</b> .	3219
–	T4	TP1	F-A, S-Q	Category B	SGG12 SG38 SG49 SG62	See entry above.	3219



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3220	PENTAFLUOROETHANE (REFRIGERANT GAS R 125)	2.2	–	–	–	120 mL	E1	P200	–	–	–
3221	SELF-REACTIVE LIQUID TYPE B	4.1	See SP181	–	181 274	25 mL	E0	P520	PP21	–	–
3222	SELF-REACTIVE SOLID TYPE B	4.1	See SP181	–	181 274	100 g	E0	P520	PP21	–	–
3223	SELF-REACTIVE LIQUID TYPE C	4.1	–	–	274	25 mL	E0	P520	PP21 PP94 PP95	–	–
3224	SELF-REACTIVE SOLID TYPE C	4.1	–	–	274	100 g	E0	P520	PP21 PP94 PP95	–	–
3225	SELF-REACTIVE LIQUID TYPE D	4.1	–	–	274	125 mL	E0	P520	–	–	–
3226	SELF-REACTIVE SOLID TYPE D	4.1	–	–	274	500 g	E0	P520	–	–	–
3227	SELF-REACTIVE LIQUID TYPE E	4.1	–	–	274	125 mL	E0	P520	–	–	–
3228	SELF-REACTIVE SOLID TYPE E	4.1	–	–	274	500 g	E0	P520	–	–	–
3229	SELF-REACTIVE LIQUID TYPE F	4.1	–	–	274	125 mL	E0	P520	–	IBC99	–
3230	SELF-REACTIVE SOLID TYPE F	4.1	–	–	274	500 g	E0	P520	–	IBC99	–
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	4.1	See SP181	–	181 194 274 923	0	E0	P520	PP21	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable gas with a mild ether-like odour. Much heavier than air (4.2).	3220
–	–	–	F-J, S-G	Category D SW1	SG1 SG35 SG36	May explode at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3221
–	–	–	F-J, S-G	Category D SW1	SG1 SG35 SG36	May explode at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3222
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	May decompose violently at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3223
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	May decompose violently at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3224
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3225
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Insoluble in water except: 4-(BENZYL(ETHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE 3-CHLORO-4-DIETHYLAMINO BENZENEDIAZONIUM ZINC CHLORIDE 4-DIPROPYLAMINO BENZENEDIAZONIUM ZINC CHLORIDE SODIUM 2-DIAZO-1-NAPHTHOL-4-SULPHONATE SODIUM 2-DIAZO-1-NAPHTHOL-5-SULPHONATE	3226
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3227
–	–	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3228
–	T23	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3229
–	T23	–	F-J, S-G	Category D SW1	SG35 SG36	Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3230
–	–	–	F-F, S-K	Category D SW1 SW3	SG1 SG35 SG36	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3231



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	4.1	See SP181	–	181 194 274 923	0	E0	P520	PP21	–	–
3233	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	PP21	–	–
3234	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	PP21	–	–
3235	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–
3236	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–
3237	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–
3238	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–
3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-F, S-K	Category D SW1 SW3	SG1 SG35 SG36	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3232
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3233
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	May explode at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water except: 3-METHYL-4-(PYRROLIDIN-1-YL)BENZENEDIAZONIUM TETRAFLUOROBORATE TETRAMINEPALLADIUM(II) NITRATE Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3234
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3235
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Soluble in water except: AZODICARBONAMIDE FORMULATION TYPE D 2,2'-AZODI(2,4-DIMETHYL-4-METHOXYVALERONITRILE) 2,2'-AZODI(2,4-DIMETHYLVALERONITRILE) 2,2'-AZODI(2-METHYLBUTYRONITRILE) N-FORMYL-2-(NITROMETHYLENE)-1,3-PERHYDROTHIAZINE 4-NITROSOPHENOL Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation.	3236
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3237
–	–	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature should be checked regularly.	3238
–	T23	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature must be checked regularly.	3239

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED	4.1	–	–	194 274 923	0	E0	P520	–	–	–
3241	2-BROMO-2-NITROPROPANE-1,3-DIOL	4.1	–	III	–	5 kg	E1	P520	PP22	IBC08	B3
3242	AZODICARBONAMIDE	4.1	–	II	215	500 g	E0	P409	–	–	–
3243	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.	6.1	–	II	217 274	500 g	E4	P002	PP9	IBC02	–
3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	8	–	II	218 274	1 kg	E2	P002	PP9	IBC05	–
3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS	9	–	–	219	0	E0	P904	–	IBC99	–
△ 3246	METHANESULPHONYL CHLORIDE	6.1	8	I	354	0	E0	P602	–	–	–
3247	SODIUM PEROXOBORATE, ANHYDROUS	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	220 221	1 L	E2	P001	–	–	–
3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	6.1	III	220 221 223	5 L	E1	P001	–	–	–
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	–	II	221	500 g	E4	P002	–	–	–
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	–	III	221 223	5 kg	E1	P002 LP02	–	–	–
3250	CHLOROACETIC ACID, MOLTEN	6.1	8	II	–	0	E0	–	–	–	–
3251	ISOSORBIDE-5-MONONITRATE	4.1	–	III	226	5 kg	E0	P409	–	–	–
3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	2.1	–	–	–	0	E0	P200	–	–	–
3253	DISODIUM TRIOXOSILICATE	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T23	–	F-F, S-K	Category D SW1 SW3	SG35 SG36	Decomposes at temperatures higher than the emergency temperature or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous decomposition. The products of combustion or self-accelerating decomposition may be toxic by inhalation. Control and emergency temperatures for each formulation can be found in 2.4.2.3.2.3. The temperature must be checked regularly.	3240
–	–	–	F-J, S-G	Category C SW1 SW2 H2 H3	–	White crystals. Soluble in water. Decomposes when heated, evolving toxic gases. Sensitive to strong detonation shock. This substance shall be packed in accordance with packing method OP6 (see applicable packing instruction).	3241
–	T3	TP33	F-J, S-G	Category D	SG17 SG35 SG36	Yellow or orange powder. Insoluble in water. Heat may cause exothermic decomposition, producing carbon monoxide (a toxic and flammable gas) and nitrogen. May explode if involved in a fire under confined conditions. Addition of activators (e.g. zinc compounds) may result in a decrease of thermal stability and/or a change in explosive properties.	3242
–	T3 BK2	TP33	F-A, S-A	Category B SW2	–	Mixtures of non-dangerous solids (such as soil, sand, production materials, etc.) and toxic liquids. Toxic if swallowed, by skin contact or by inhalation.	3243
–	T3 BK2	TP33	F-A, S-B	Category B SW2	–	Mixtures of non-dangerous solids (such as soil, sand, production materials, etc.) and corrosive liquids. Cause burns to skin, eyes and mucous membranes.	3244
–	–	–	F-A, S-T	SW7	SG50	–	3245
–	T20	TP2 TP13	F-A, S-B	Category D SW2	SGG1 SG36 SG49	Pale yellow liquid. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3246
–	T3	TP33	F-A, S-Q	Category A SW1 H1	–	Yellowish, odourless crystals. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed.	3247
–	–	–	F-E, S-D	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation.	3248
–	–	–	F-E, S-D	Category A	–	See entry above.	3248
–	T3	TP33	F-A, S-A	Category C SW2	–	Toxic if swallowed, by skin contact or by dust inhalation.	3249
–	T1	TP33	F-A, S-A	Category C SW2	–	See entry above.	3249
–	T7	TP3 TP28	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Molten liquid. Melting point may be as low as 50°C. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3250
–	–	–	F-F, S-G	Category D SW1 SW2 H2 H3	–	May explode if involved in a fire under confined conditions. Sensitive to strong detonation shock.	3251
–	T50	–	F-D, S-U	Category D SW2	–	Flammable colourless gas. Heavier than air (1.8).	3252
–	T1	TP33	F-A, S-B	Category A	SGG18 SG35	Colourless hygroscopic solid. Dangerous reaction with oxidizers. In the presence of moisture, reacts with aluminium, zinc, tin and their compounds, evolving hydrogen, a flammable gas. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	3253

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3254	TRIBUTYLPHOSPHANE	4.2	–	I	–	0	E0	P400	–	–	–
△ 3255	tert-BUTYL HYPOCHLORITE	4.2	8	I	976	0	E0	P099	–	–	–
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flashpoint above 60°C, at or above its flashpoint	3	–	III	274	0	E0	P099	–	IBC01	–
3257	ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100°C and below its flashpoint (including molten metals, molten salts, etc.)	9	–	III	232 274	0	E0	P099	–	IBC01	–
3258	ELEVATED TEMPERATURE SOLID, N.O.S. at or above 240°C	9	–	III	232 274	0	E0	P099	–	–	–
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T21	TP2 TP7	F-A, S-M	Category D	SG44	Colourless yellowish liquid. Insoluble in water. Strong garlic odour (phosphine). Liable to heat and ignite spontaneously in air. If involved in a fire, evolves phosphine, a flammable and highly toxic gas. Reacts violently with oxidizing substances (peroxides, halogens, nitric oxides and carbon tetrachloride). Irritating to mucous membranes.	3254
–	–	–	F-A, S-M	Category D	SGG8	Volatile flammable slightly yellow liquid with a pungent odour. Immiscible with water. Boiling point: 77°C to 79°C. Flashpoint between –15°C and –10°C. Exposure to light causes immediate dangerous decomposition. Causes burns to skin, eyes and mucous membranes.	3255
–	T3	TP3 TP29	F-E, S-D	Category A	–	–	3256
–	T3	TP3 TP29	F-A, <u>S-P</u>	Category A SW5	–	Any liquid which is transported at or above 100°C but below its flashpoint. May cause fire if in contact with combustible material due to extreme temperature.	3257
–	–	–	F-A, <u>S-P</u>	Category A SW5	–	Any solid which is transported at or above 240°C. May cause fire if in contact with combustible material due to extreme temperature.	3258
–	T6	TP33	F-A, S-B	Category A	SGG18 SG35	Colourless to yellowish solids with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. Cause burns to skin, eyes and mucous membranes. React violently with acids.	3259
–	T3	TP33	F-A, S-B	Category A	SGG18 SG35	See entry above.	3259
–	T1	TP33	F-A, S-B	Category A	SGG18 SG35	See entry above.	3259
–	T6	TP33	F-A, S-B	Category B	SGG1 SG36 SG49	Causes burns to skin, eyes and mucous membranes.	3260
–	T3	TP33	F-A, S-B	Category B	SGG1 SG36 SG49	See entry above.	3260
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	See entry above.	3260
–	T6	TP33	F-A, S-B	Category B	SGG1 SG36 SG49	Causes burns to skin, eyes and mucous membranes.	3261
–	T3	TP33	F-A, S-B	Category B	SGG1 SG36 SG49	See entry above.	3261
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	See entry above.	3261
–	T6	TP33	F-A, S-B	Category B	SGG18 SG35	Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.	3262
–	T3	TP33	F-A, S-B	Category B	SGG18 SG35	See entry above.	3262
–	T1	TP33	F-A, S-B	Category A	SGG18 SG35	See entry above.	3262

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	–	I	274	0	E0	P002	–	IBC07	B1
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	–	II	274	1 kg	E2	P002	–	IBC08	B4 B21
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	–	I	274	0	E0	P001	–	–	–
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	–	II	274	1 L	E2	P001	–	IBC02	–
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3268	SAFETY DEVICES, electrically initiated	9	–	–	280 289	0	E0	P902 LP902	–	–	–
3269	POLYESTER RESIN KIT, liquid base material	3	–	II	236 340	5 L	See SP340	P302	–	–	–
3269	POLYESTER RESIN KIT, liquid base material	3	–	III	236 340	5 L	See SP340	P302	–	–	–
3270	NITROCELLULOSE MEMBRANE FILTERS with not more than 12.6% nitrogen, by dry mass	4.1	–	II	237 286	1 kg	E2	P411	–	–	–
3271	ETHERS, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
3271	ETHERS, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3272	ESTERS, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T6	TP33	F-A, S-B	Category B	SGG18 SG35	Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.	3263
–	T3	TP33	F-A, S-B	Category B	SGG18 SG35	See entry above.	3263
–	T1	TP33	F-A, S-B	Category A	SGG18 SG35	See entry above.	3263
–	T14	TP2 TP27	F-A, S-B	Category B SW2	SGG1 SG36 SG49	Causes burns to skin, eyes and mucous membranes.	3264
–	T11	TP2 TP27	F-A, S-B	Category B SW2	SGG1 SG36 SG49	See entry above.	3264
–	T7	TP1 TP28	F-A, S-B	Category A SW2	SGG1 SG36 SG49	See entry above.	3264
–	T14	TP2 TP27	F-A, S-B	Category B SW2	SGG1 SG36 SG49	Causes burns to skin, eyes and mucous membranes.	3265
–	T11	TP2 TP27	F-A, S-B	Category B SW2	SGG1 SG36 SG49	See entry above.	3265
–	T7	TP1 TP28	F-A, S-B	Category A SW2	SGG1 SG36 SG49	See entry above.	3265
–	T14	TP2 TP27	F-A, S-B	Category B SW2	SGG18 SG35	Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.	3266
–	T11	TP2 TP27	F-A, S-B	Category B SW2	SGG18 SG35	See entry above.	3266
–	T7	TP1 TP28	F-A, S-B	Category A SW2	SGG18 SG35	See entry above.	3266
–	T14	TP2 TP27	F-A, S-B	Category B SW2	SGG18 SG35	Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.	3267
–	T11	TP2 TP27	F-A, S-B	Category B SW2	SGG18 SG35	See entry above.	3267
–	T7	TP1 TP28	F-A, S-B	Category A SW2	SGG18 SG35	See entry above.	3267
–	–	–	F-B, S-X	Category A	–	–	3268
–	–	–	F-E, S-D	Category B	–	Polyester resin kits consist of two components: a base material (flammable liquid) and an activator (organic peroxide), each separately packed in an inner packaging.	3269
–	–	–	F-E, S-D	Category A	–	See entry above.	3269
–	–	–	F-A, S-I	Category D	–	Filters may be small round pieces or large sheets. When involved in a fire, evolve toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Burn rapidly with intense heat radiation.	3270
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	–	3271
–	T4	TP1 TP29	F-E, S-D	Category A	–	–	3271
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	–	3272



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3272	ESTERS, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.	3	6.1	I	274	0	E0	P001	–	–	–
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.	3	6.1	II	274	1 L	E2	P001	–	IBC02	–
△ 3274	ALCOHOLATES SOLUTION, N.O.S. in alcohol	3	8	II	274	1 L	E2	P001	–	IBC02	–
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.	6.1	3	I	274 315	0	E5	P001	–	–	–
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.	6.1	3	II	274	100 mL	E4	P001	–	IBC02	–
3276	NITRILES, LIQUID, TOXIC, N.O.S.	6.1	–	I	274 315	0	E5	P001	–	–	–
3276	NITRILES, LIQUID, TOXIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3276	NITRILES, LIQUID, TOXIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3277	CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.	6.1	8	II	274	100 mL	E4	P001	–	IBC02	–
3278	ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	I	43 274 315	0	E5	P001	–	–	–
3278	ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	II	43 274	100 mL	E4	P001	–	IBC02	–
3278	ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	III	43 223 274	5 L	E1	P001 LP01	–	IBC03	–
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	6.1	3	I	43 274 315	0	E5	P001	–	–	–
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	6.1	3	II	43 274	100 mL	E4	P001	–	–	–
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	–	I	274 315	0	E5	P001	–	–	–
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	–	I	274 315	0	E5	P601	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1 TP29	F-E, S-D	Category A	–	–	3272
–	T14	TP2 TP13 TP27	F-E, S-D	Category E SW2	SG35	Liquids evolving toxic vapour. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Toxic if swallowed, by skin contact or by inhalation.	3273
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	SG35	See entry above.	3273
–	–	–	F-E, S-C	Category B	SGG18 SG35	Colourless solution. Reacts violently with water. Causes burns to skin, eyes and mucous membranes.	3274
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	SG35	Flammable liquids, evolving toxic vapour. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	3275
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	SG35	See entry above.	3275
–	T14	TP2 TP13 TP27	F-A, S-A	Category B	SG35	Liquids, evolving toxic vapour. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.	3276
–	T11	TP2 TP27	F-A, S-A	Category B	SG35	See entry above.	3276
–	T7	TP1 TP28	F-A, S-A	Category A	SG35	See entry above.	3276
–	T8	TP2 TP13 TP28	F-A, S-B	Category A SW1 SW2 H1 H2	SGG1 SG36 SG49	React and decompose with water or heat, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	3277
–	T14	TP2 TP13 TP27	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3278
–	T11	TP2 TP27	F-A, S-A	Category B	–	See entry above.	3278
–	T7	TP1 TP28	F-A, S-A	Category A	–	See entry above.	3278
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	A wide variety of toxic flammable liquids. Toxic if swallowed, by skin contact or by inhalation.	3279
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3279
–	T14	TP2 TP13 TP27	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3280
–	T11	TP2 TP27	F-A, S-A	Category B	–	See entry above.	3280
–	T7	TP1 TP28	F-A, S-A	Category A	–	See entry above.	3280
–	T14	TP2 TP13 TP27	F-A, S-A	Category D SW2	–	A range of metal carbonyls which, when heated, can give off carbon monoxide, a toxic gas. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	3281



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3282	ORGANOMETALLIC COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P001	–	–	–
3282	ORGANOMETALLIC COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3282	ORGANOMETALLIC COMPOUND, LIQUID, TOXIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3284	TELLURIUM COMPOUND, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3284	TELLURIUM COMPOUND, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3284	TELLURIUM COMPOUND, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3285	VANADIUM COMPOUND, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3285	VANADIUM COMPOUND, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3285	VANADIUM COMPOUND, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	3	6.1/8	I	274	0	E0	P001	–	–	–
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	3	6.1/8	II	274	1 L	E2	P001	–	IBC99	–
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	–	I	274 315	0	E5	P001	–	–	–
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC99	–
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	6.1	8	I	274 315	0	E5	P001	–	–	–
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	6.1	8	II	274	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP27	F-A, S-A	Category B SW2	–	A range of metal carbonyls which, when heated, can give off carbon monoxide, a toxic gas. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.	3281
–	T7	TP1 TP28	F-A, S-A	Category B SW2	–	See entry above.	3281
–	T14	TP2 TP13 TP27	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3282
–	T11	TP2 TP27	F-A, S-A	Category B	–	See entry above.	3282
–	T7	TP1 TP28	F-A, S-A	Category A	–	See entry above.	3282
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3283
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3283
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3283
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3284
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3284
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3284
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3285
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3285
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3285
–	T14	TP2 TP13 TP27	F-E, S-C	Category E SW2	SG5 SG8	Flammable, toxic, corrosive liquid. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3286
–	T11	TP2 TP13 TP27	F-E, S-C	Category B SW2	SG5 SG8	See entry above.	3286
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation.	3287
–	T11	TP2 TP27	F-A, S-A	Category B SW2	–	See entry above.	3287
–	T7	TP1 TP28	F-A, S-A	Category A SW2	–	See entry above.	3287
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3288
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3288
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3288
–	T14	TP2 TP13 TP27	F-A, S-B	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3289
–	T11	TP2 TP27	F-A, S-B	Category B SW2	–	See entry above.	3289

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	8	I	274	0	E5	P002	–	IBC99	–
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	8	II	274	500 g	E4	P002	–	IBC06	B21
△ 3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.	6.2	–	–	–	0	E0	P621 LP621	–	IBC620	–
3292	BATTERIES, CONTAINING SODIUM or CELLS, CONTAINING SODIUM	4.3	–	–	239	0	E0	P408	–	–	–
3293	HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3294	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide	6.1	3 P	I	900	0	E0	P601	–	–	–
3295	HYDROCARBONS, LIQUID, N.O.S.	3	–	I	–	500 mL	E3	P001	–	–	–
3295	HYDROCARBONS, LIQUID, N.O.S.	3	–	II	–	1 L	E2	P001	–	IBC02	–
3295	HYDROCARBONS, LIQUID, N.O.S.	3	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3296	HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)	2.2	–	–	–	120 mL	E1	P200	–	–	–
△ 3297	ETHYLENE OXIDE AND CHLOROTETRAFLUORO-ETHANE MIXTURE with not more than 8.8% ethylene oxide	2.2	–	–	392	120 mL	E1	P200	–	–	–
△ 3298	ETHYLENE OXIDE AND PENTAFLUROETHANE MIXTURE with not more than 7.9% ethylene oxide	2.2	–	–	392	120 mL	E1	P200	–	–	–
△ 3299	ETHYLENE OXIDE AND TETRAFLUROETHANE MIXTURE with not more than 5.6% ethylene oxide	2.2	–	–	392	120 mL	E1	P200	–	–	–
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide	2.3	2.1	–	–	0	E0	P200	–	–	–
3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.	8	4.2	I	274	0	E0	P001	–	–	–
3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.	8	4.2	II	274	0	E2	P001	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T6	TP33	F-A, S-B	Category B SW2	–	Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3290
–	T3	TP33	F-A, S-B	Category B SW2	–	See entry above.	3290
–	BK2	–	F-A, S-T	SW28	–	Derived from the medical treatment of animals, humans or from bio-research.	3291
–	–	–	F-G, S-P	Category A H1	SG26	Series of hermetically sealed metal cells containing sodium, electrically connected and secured within a metal casing. “Cold” batteries (batteries containing elemental sodium only in the solid state) are electrically inert. Batteries are activated by heating to between 300°C and 350°C before operating to produce electricity. Activated batteries (i.e. “hot” batteries containing liquid elemental sodium) may cause fire through short-circuit of the terminals. Batteries or cells should not be offered for transport at a temperature such that liquid elemental sodium is present in the battery or cell unless approved, and under conditions of transport established by the competent authority.	3292
–	T4	TP1	F-A, S-A	Category A	SGG18 SG35	Colourless liquid. Reacts violently with acids. Toxic if swallowed, by skin contact or by inhalation.	3293
–	T14	TP2 TP13	F-E, <u>S-D</u>	Category D SW2	–	Flammable solution, evolving extremely toxic flammable vapours. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation. Transport of HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with more than 45% hydrogen cyanide is <b>prohibited</b> .	3294
–	T11	TP1 TP8 TP28	F-E, S-D	Category E	–	Immiscible with water.	3295
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	–	See entry above.	3295
–	T4	TP1 TP29	F-E, S-D	Category A	–	See entry above.	3295
–	T50	–	F-C, S-V	Category A	–	Non-flammable compressed gas. Heavier than air (1.4).	3296
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with an ether-like odour. Much heavier than air.	3297
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with an ether-like odour. Much heavier than air.	3298
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with an ether-like odour. Much heavier than air.	3299
–	–	–	F-D, S-U	Category D SW2	–	Liquefied, flammable, toxic colourless gas with an ether-like odour. Heavier than air (1.5).	3300
–	–	–	F-A, S-J	Category D	–	Causes burns to skin, eyes and mucous membranes.	3301
–	–	–	F-A, S-J	Category D	–	See entry above.	3301

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3302	2-DIMETHYLAMINOETHYL ACRYLATE, STABILIZED	6.1	–	II	386	100 mL	E4	P001	–	IBC02	–
3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.	2.3	5.1	–	274	0	E0	P200	–	–	–
3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.	2.3	8	–	274	0	E0	P200	–	–	–
3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2.3	2.1/8	–	274	0	E0	P200	–	–	–
3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2.3	5.1/8	–	274	0	E0	P200	–	–	–
3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.	2.3	5.1	–	274	0	E0	P200	–	–	–
3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.	2.3	8	–	274	0	E0	P200	–	–	–
3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2.3	2.1/8	–	274	0	E0	P200	–	–	–
3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2.3	5.1/8	–	274	0	E0	P200	–	–	–
3311	GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	2.2	5.1	–	274	0	E0	P203	–	–	–
3312	GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.	2.1	–	–	274	0	E0	P203	–	–	–
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	–	II	–	0	E2	P002	–	IBC08	B4 B21
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	–	III	223	0	E1	P002 LP02	–	IBC08	B3
3314	PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form, evolving flammable vapour	9	–	III	207 965	5 kg	E1	P002	PP14	IBC08	B3 B6
3315	CHEMICAL SAMPLE, TOXIC	6.1	–	I	250	0	E0	P099	–	–	–
3316	CHEMICAL KIT or FIRST AID KIT	9	–	–	251 340	See SP251	See SP340	P901	–	–	–
3317	2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2	F-A, S-A	Category D SW1	–	Colourless to light yellow liquid. Acrid odour. Miscible with water. Causes tears. Stabilized with hydroquinone derivatives. Hydrolyses in water to give off acrylic acid and dimethylaminoethanol. Toxic if swallowed, by skin contact or by inhalation.	3302
–	–	–	F-C, S-W	Category D SW2	–	–	3303
–	–	–	F-C, S-U	Category D SW2	–	–	3304
–	–	–	F-D, S-U	Category D SW2	SG4 SG9	–	3305
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	–	3306
–	–	–	F-C, S-W	Category D SW2	–	–	3307
–	–	–	F-C, S-U	Category D SW2	–	–	3308
–	–	–	<u>F-D</u> , S-U	Category D SW2	SG4 SG9	–	3309
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	–	3310
–	T75	TP5 TP22	F-C, S-W	Category D	–	–	3311
–	T75	TP5	<u>F-D</u> , S-U	Category D SW2	–	–	3312
–	T3	TP33	F-A, S-J	Category C	–	Self-heating coloured powder or granules. Odourless. Liable to self-heating or spontaneous combustion.	3313
–	T1	TP33	F-A, S-J	Category C	–	See entry above.	3313
–	–	–	F-A, S-I	Category E SW1 SW6	SG5 SG14	A moulding material consisting predominantly of polystyrene, poly(methyl methacrylate) or other polymeric material and containing 5% to 8% of a volatile hydrocarbon which is predominantly pentane. During storage, a small proportion of this pentane is released to the atmosphere; this proportion increases at elevated temperatures.	3314
–	–	–	F-A, S-A	Category D SW2	–	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 providing prior approval has been granted by the competent authority or the Director General of the Organization for the Prohibition of Chemical Weapons. During transport, the packaging shall be accompanied by a copy of the document of approval for transport, showing the quantity limitations and the packing requirements.	3315
–	–	–	F-A, <u>S-P</u>	Category A	–	–	3316
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. Red crystals. Insoluble in water. Explosive in the dry state. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Harmful if swallowed or by skin contact.	3317

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	2.3	8 P	–	23	0	E0	P200	–	–	–
3319	NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass	4.1	–	II	272 274	0	E0	P099	–	–	–
3320	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION with not more than 12% sodium borohydride and not more than 40% sodium hydroxide, by mass	8	–	II	–	1 L	E2	P001	–	IBC02	–
3320	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION with not more than 12% sodium borohydride and not more than 40% sodium hydroxide, by mass	8	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3321	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3322	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3323	RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile—excepted	7	See SP172	–	172 317 325	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3324	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3325	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3326	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3327	RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3328	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3329	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T50	–	F-C, S-U	Category D SW2	SGG18 SG35 SG46	Highly concentrated solution in water of a non-flammable, toxic and corrosive gas with a pungent odour. Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas. Reacts violently with acids. Highly irritating to skin, eyes and mucous membranes. Suffocating in low concentrations.	3318
–	–	–	F-B, S-J	Category E	–	Desensitized explosive with lactose, glucose or cellulose. White solid. Soluble in water. When involved in a fire, the nitroglycerin may accumulate and may produce an explosion. Contact with water may dissolve the desensitizer (lactose or glucose), causing migration and accumulation of the nitroglycerin, which may explode. Nitroglycerin is more dense than water. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. Inhalation of vapours may cause headaches, dizziness and fainting.	3319
–	T7	TP2	F-A, S-B	Category A	SGG18 SG35	Off-white clear liquid with a slight hydrocarbon odour. Reacts violently with acids. In contact with acids or if diluted with large amount of water, evolves hydrogen gas and heat. Causes burns to skin, eyes and mucous membranes.	3320
–	T4	TP2	F-A, S-B	Category A	SGG18 SG35	See entry above.	3320
–	T5	TP4	F-I, S-S	Category A SW20 SW21	–	See 1.5.1.	3321
–	T5	TP4	F-I, S-S	Category A SW21	–	See 1.5.1.	3322
–	–	–	F-I, S-S	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	3323
–	–	–	F-I, <u>S-S</u>	Category A SW12 SW20 SW21	–	See 1.5.1.	3324
–	–	–	F-I, <u>S-S</u>	Category A SW12 SW21	–	See 1.5.1.	3325
–	–	–	F-I, <u>S-S</u>	Category A SW12	–	See 1.5.1.	3326
–	–	–	F-I, <u>S-S</u>	Category A SW12 SW20 SW21	–	See 1.5.1.	3327
–	–	–	F-I, <u>S-S</u>	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	3328
–	–	–	F-I, <u>S-S</u>	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	3329



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3330	RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3331	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE	7	See SP172	–	172 326	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3332	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted	7	See SP172	–	172 317	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3333	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE	7	See SP172	–	172	0	E0	See 4.1.9	See 4.1.9	See 4.1.9	See 4.1.9
3334	AVIATION REGULATED LIQUID, N.O.S.	9	–	–	960	–	–	–	–	–	–
3335	AVIATION REGULATED SOLID, N.O.S.	9	–	–	960	–	–	–	–	–	–
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3	–	I	274	0	E0	P001	–	–	–
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3	–	II	274	1 L	E2	P001	–	IBC02	–
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3	–	III	223 274	5 L	E1	P001 LP01	–	IBC03	–
3337	REFRIGERANT GAS R 404A	2.2	–	–	–	120 mL	E1	P200	–	–	–
3338	REFRIGERANT GAS R 407A	2.2	–	–	–	120 mL	E1	P200	–	–	–
3339	REFRIGERANT GAS R 407B	2.2	–	–	–	120 mL	E1	P200	–	–	–
3340	REFRIGERANT GAS R 407C	2.2	–	–	–	120 mL	E1	P200	–	–	–
3341	THIOUREA DIOXIDE	4.2	–	II	–	0	E2	P002	PP31	IBC06	B21
3341	THIOUREA DIOXIDE	4.2	–	III	223	0	E1	P002 LP02	PP31	IBC08	B3

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-I, <u>S-S</u>	Category A SW12	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	3330
–	–	–	F-I, <u>S-S</u>	Category A SW13	–	See 1.5.1. For ships transporting an INF cargo as defined in regulation VII/14 of the SOLAS Convention, 1974, as amended, refer also to the INF Code.	3331
–	–	–	<u>F-I</u> , <u>S-S</u>	Category A	–	See 1.5.1.	3332
–	–	–	<u>F-I</u> , <u>S-S</u>	Category A SW12	–	See 1.5.1.	3333
–	–	–	–	–	–	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.	3334
–	–	–	–	–	–	Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.	3335
–	T11	TP2	F-E, S-D	Category E	SG50 SG57	Colourless to yellow liquids with a garlic odour. Immiscible with water.	3336
–	T7	TP1 TP8 TP28	F-E, S-D	Category B	SG50 SG57	See entry above.	3336
–	T4	TP1 TP29	F-E, S-D	Category B	SG50 SG57	See entry above.	3336
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with a faint ether-like odour. Heavier than air (1.06). Very high exposures may cause anaesthetic effects and asphyxiation.	3337
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with a faint ether-like odour. Heavier than air (1.17). Very high exposures may cause anaesthetic effects and asphyxiation.	3338
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with a faint ether-like odour. Heavier than air (1.19). Very high exposures may cause anaesthetic effects and asphyxiation.	3339
–	T50	–	F-C, S-V	Category A	–	Liquefied, non-flammable, colourless gas with a faint ether-like odour. Heavier than air (1.16). Very high exposures may cause anaesthetic effects and asphyxiation.	3340
–	T3	TP33	F-A, S-J	Category D	–	White to yellow-white crystalline powder. Virtually odourless. Strong reducing agent. Violent exothermic decomposition above 100°C with emission of large amounts of sulphur oxides, ammonia, carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen sulphide. Extended exposure to temperatures above 50°C and moisture may cause visible decomposition. Dust irritating to skin, eyes and mucous membranes.	3341
–	T1	TP33	F-A, S-J	Category D	–	See entry above.	3341



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3342	XANTHATES	4.2	–	II	–	0	E2	P002	PP31	IBC06	B21
3342	XANTHATES	4.2	–	III	223	0	E1	P002 LP02	PP31	IBC08	B3
3343	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass	3	–	–	274 278	0	E0	P099	–	–	–
3344	PENTAERYTHRITE TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	4.1	–	II	272 274	0	E0	P406	PP26 PP80	–	–
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-J	Category D SW2	–	Hygroscopic yellow powder with an unpleasant odour. On contact with moisture, evolves highly flammable vapours such as carbon disulphide (UN 1131, which has a flashpoint of –30°C c.c. and a very low ignition temperature of 100°C). When confined, can cause an explosion due to the wide explosive limits of the vapours. Finely divided dust forms explosive mixtures in air. Care should be taken when opening cargo transport units in case carbon disulphide vapours are present.	3342
–	T1	TP33	F-A, S-J	Category D SW2	–	See entry above.	3342
–	–	–	F-E, S-Y	Category D	–	–	3343
–	–	–	F-B, S-J	Category E	–	–	3344
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	3345
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	3345
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	3345
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Pesticides frequently containing petroleum or coal tar distillates, or other flammable liquids. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3346
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3346
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3347
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3347
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3347
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3348
–	T11	TP2 TP27	F-A, S-A	Category B SW2	–	See entry above.	3348

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	–	I	61 274	0	E5	P002	–	IBC07	B1
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	–	II	61 274	500 g	E4	P002	–	IBC08	B4 B21
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	–	III	61 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3350	PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	I	61 274	0	E0	P001	–	–	–
3350	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, TOXIC, flashpoint less than 23°C	3	6.1	II	61 274	1 L	E2	P001	–	IBC02	–
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	I	61 274	0	E5	P001	–	–	–
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	II	61 274	100 mL	E4	P001	–	IBC02	–
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	6.1	3	III	61 223 274	5 L	E1	P001	–	IBC03	–
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	–	I	61 274	0	E5	P001	–	–	–
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	–	II	61 274	100 mL	E4	P001	–	IBC02	–
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	–	III	61 223 274	5 L	E1	P001 LP01	–	IBC03	–
3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.	2.1	–	–	274	0	E0	P200	–	–	–
3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	2.3	2.1	–	274	0	E0	P200	–	–	–
3356	OXYGEN GENERATOR, CHEMICAL	5.1	–	–	284	0	E0	P500	–	–	–
3357	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3	–	II	274 288	0	E0	P099	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3348
–	T6	TP33	F-A, S-A	Category A SW2	–	Solid pesticides present a very wide range of toxic hazard. Toxic if swallowed, by skin contact or by inhalation.	3349
–	T3	TP33	F-A, S-A	Category A SW2	–	See entry above.	3349
–	T1	TP33	F-A, S-A	Category A SW2	–	See entry above.	3349
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3350
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3350
–	T14	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	They frequently contain petroleum or coal tar distillates, or other flammable liquids. Flashpoint and miscibility with water depend upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3351
–	T11	TP2 TP13 TP27	F-E, S-D	Category B SW2	–	See entry above.	3351
–	T7	TP2 TP28	F-E, S-D	Category A SW2	–	See entry above.	3351
–	T14	TP2 TP13 TP27	F-A, S-A	Category B SW2	–	Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.	3352
–	T11	TP2 TP27	F-A, S-A	Category B SW2	–	See entry above.	3352
–	T7	TP2 TP28	F-A, S-A	Category A SW2	–	See entry above.	3352
–	–	–	F-D, S-U	Category D	–	Flammable mixtures of insecticides with liquefied gases.	3354
–	–	–	F-D, S-U	Category D SW2	–	Toxic, flammable mixtures of insecticides with liquefied gases.	3355
–	–	–	F-H, S-Q	Category D	–	Oxygen generators, chemical are devices containing chemicals which, upon activation, release oxygen as a product of chemical reaction. Chemical oxygen generators are used for the generation of oxygen for respiratory support, e.g. in aircraft, submarines, spacecraft, bomb shelters and breathing apparatus. Oxidizing salts such as chlorates and perchlorates of lithium, sodium and potassium, which are used in chemical oxygen generators, evolve oxygen when heated. These salts are mixed (compounded) with a fuel, usually iron powder, to form a chlorate candle, which produces oxygen by continuous reaction. The fuel is used to generate heat by oxidation. Once the reaction begins, oxygen is released from the hot salt by thermal decomposition (a thermal shield is used around the generator). A portion of the oxygen reacts with the fuel to produce more heat, which produces more oxygen, and so on. Initiation of the reaction can be achieved by a percussion device, friction device or electric wire.	3356
–	–	–	F-E, S-Y	Category D	–	–	3357

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3358	REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas	2.1	–	–	291	0	E0	P003	PP32	–	–
3359	FUMIGATED CARGO TRANSPORT UNIT	9	–	–	302	0	E0	–	–	–	–
△ 3360	FIBRES, VEGETABLE, DRY	4.1	–	–	29 123 299 973	0	E0	P003	PP19	–	–
3361	CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.	6.1	8	II	274	0	E0	P010	–	–	–
3362	CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	6.1	3/8	II	274	0	E0	P010	–	–	–
△ 3363	DANGEROUS GOODS IN ARTICLES or DANGEROUS GOODS IN MACHINERY or DANGEROUS GOODS IN APPARATUS	9	–	–	301	See SP301	E0	P907	–	–	–
3364	TRINITROPHENOL (PICRIC ACID), WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–
3365	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–
3366	TRINITROTOLUENE (TNT), WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–
3367	TRINITROBENZENE, WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–
3368	TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP24 PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-D, S-U	Category D	–	–	3358
–	–	–	F-A, <u>S-D</u>	Category B SW2	–	A ‘FUMIGATED CARGO TRANSPORT UNIT’ is a closed cargo transport unit containing goods or materials that either are or have been fumigated within the unit. The fumigant gases used are either poisonous or asphyxiant. The gases are usually evolved from solid or liquid preparations distributed within the unit. See also 5.5.2.	3359
–	–	–	F-A, S-I	Category A	–	Ignite readily. Consignments of cotton, dry having a density not less than 360 kg/m³, flax, dry having a density not less than 400 kg/m³, sisal, dry having a density not less than 360 kg/m³ (ISO Standard 8115 (1986)) and tampico fibre, dry having a density not less than 360 kg/m³ are not subject to the provisions of this Code when carried in closed cargo transport units.	3360
–	T14	TP2 TP7 TP13 TP27	F-A, S-B	Category C SW2	SGG1 SG36 SG49	Colourless to yellow liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gas. In the presence of moisture, highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	3361
–	T14	TP2 TP7 TP13 TP27	F-E, S-C	Category C SW2	SGG1 SG5 SG8 SG36 SG49	Colourless to yellow flammable liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gas. In the presence of moisture, highly corrosive to most metals. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	3362
–	–	–	F-A, <u>S-P</u>	Category A	–	Types of articles transported under this entry contain only limited quantities of dangerous goods.	3363
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. Soluble in water. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	3364
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Explosive and sensitive to shock and heat in the dry state. Reacts violently with heavy metals and their salts.	3365
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state. Reacts violently with heavy metals and their salts.	3366
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of odourless yellow crystals. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state. Harmful if swallowed or by skin contact. Reacts violently with heavy metals and their salts.	3367
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow crystals. Soluble in water. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to shock and heat in the dry state. Harmful if swallowed or by skin contact. Reacts violently with heavy metals and their salts.	3368

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3369	SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED with not less than 10% water, by mass	4.1	6.1 P	I	28	0	E0	P406	PP24 PP31	–	–
3370	UREA NITRATE, WETTED with not less than 10% water, by mass	4.1	–	I	28	0	E0	P406	PP31 PP78	–	–
3371	2-METHYLBUTANAL	3	–	II	–	1 L	E2	P001	–	IBC02	–
3373	BIOLOGICAL SUBSTANCE, CATEGORY B	6.2	–	–	319 341	0	E0	P650	–	–	–
3374	ACETYLENE, SOLVENT FREE	2.1	–	–	–	0	E0	P200	–	–	–
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives	5.1	–	II	309	0	E2	P505	–	IBC02	B16
3376	4-NITROPHENYLHYDRAZINE, with not less than 30% water, by mass	4.1	–	I	28	0	E0	P406	PP26 PP31	–	–
3377	SODIUM PERBORATE MONOHYDRATE	5.1	–	III	967	5 kg	E1	P002 LP02	–	IBC08	B3
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	–	III	967	5 kg	E1	P002 LP02	–	IBC08	B3
3379	DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.	3	–	I	274 311	0	E0	P099	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Substance in pure form consists of yellow powder. May form extremely sensitive compounds with heavy metals or their salts. When involved in a fire, evolves toxic fumes; in closed compartments, these fumes may form an explosive mixture with air. Explosive and sensitive to friction in the dry state. Toxic if swallowed, by skin contact or by inhalation.	3369
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. May form extremely sensitive compounds with heavy metals or their salts. Explosive and sensitive to friction in the dry state. Harmful if swallowed or by skin contact.	3370
–	T4	TP1	F-E, S-D	Category B	–	Colourless liquid. Flashpoint: –3.5°C. Explosive limits: 1.3 to 13.9%. Slightly miscible with water.	3371
–	T1 BK2	TP1	F-A, S-T	Category C SW2 SW18	–	Substances which are known or are reasonably expected to contain pathogens, transported in a form that, when exposure to it occurs, are not capable of causing permanent disability, life-threatening or fatal disease to humans or animals. Human or animal specimens for which there is minimal likelihood that pathogens are present are not subject to the provisions of this Code (see 2.6.3.2.3.6). Other exemptions are stated in 2.6.3.2.3.	3373
–	–	–	<u>F-D</u> , <u>S-U</u>	Category D SW1 SW2	SG46	Flammable gas with slight odour. Explosive limits: 2.1 to 80%. Lighter than air (0.907). Acetylene without solvent. Rough handling and exposure to local heating should be avoided, since these conditions may result in delayed explosion. Empty cylinders should be carried with the same precautions as filled cylinders.	3374
–	T1	TP1 TP9 TP17 TP32	F-H, S-Q	Category D SW1	SGG2 SG16 SG42 SG45 SG47 SG48 SG51 SG56 SG58 SG59 SG61	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. Substances shall satisfactorily pass test series 8 of the <i>Manual of Tests and Criteria</i> , part I, section 18 and be approved by the competent authority.	3375
–	–	–	F-B, S-J	Category E	SG7 SG30	Desensitized explosive. Dark orange solid. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals or their salts. Harmful if swallowed or by skin contact.	3376
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW1 SW23 H1	SGG16 SG59	White crystals or powder. Partially soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Risk of decomposition when exposed to continuous heat (exothermic decomposition ≥ 60°C). When involved in a fire or exposed to high temperatures, it may decompose, yielding oxygen and steam. Harmful if swallowed.	3377
–	T3 BK2	TP33	F-A, S-Q	Category A SW1 H1	SGG16 SG59	White crystals or powder. Soluble in water. Mixtures with combustible material are readily ignited. Decomposes in contact with water and acids, forming hydrogen peroxide. Risk of decomposition when exposed to continuous heat (exothermic decomposition ≥ 60°C). When involved in a fire or exposed to high temperatures, it may decompose, yielding oxygen and steam. Irritating to eyes, skin and mucous membranes. Harmful if swallowed.	3378
–	T1 BK2 BK3	TP33	F-A, S-Q	Category A SW1 SW23 H1	SGG16 SG59	See entry above.	3378
–	–	–	F-E, S-Y	Category D	SG30	Desensitized explosive. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals and their salts.	3379



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
△ 3380	DESENSITIZED EXPLOSIVE, SOLID, N.O.S.	4.1	–	I	274 311 394	0	E0	P099	–	–	–
3381	TOXIC BY INHALATION LIQUID, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	–	I	274	0	E0	P601	–	–	–
3382	TOXIC BY INHALATION LIQUID, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 m L/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	–	I	274	0	E0	P602	–	–	–
3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	3	I	274	0	E0	P601	–	–	–
3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	3	I	274	0	E0	P602	–	–	–
3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	4.3	I	274	0	E0	P601	–	–	–
3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	4.3	I	274	0	E0	P602	–	–	–
3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	5.1	I	274	0	E0	P601	–	–	–
3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	5.1	I	274	0	E0	P602	–	–	–
3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	8	I	274	0	E0	P601	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. Explosive and sensitive to friction in the dry state. May form extremely sensitive compounds with heavy metals and their salts.	3380
–	T22	TP2 TP13	F-A, S-A	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard. Highly toxic if swallowed, by skin contact or by inhalation.	3381
–	T20	TP2 TP13	F-A, S-A	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard. Highly toxic if swallowed, by skin contact or by inhalation.	3382
–	T22	TP2 TP13	F-E, S-D	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being flammable. Highly toxic if swallowed, by skin contact or by inhalation.	3383
–	T20	TP2 TP13	F-E, S-D	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being flammable. Highly toxic if swallowed, by skin contact or by inhalation.	3384
–	T22	TP2 TP13	F-G, S-N	Category D SW2 H1	SG26	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being water-reactive. Highly toxic if swallowed, by skin contact or by inhalation.	3385
–	T20	TP2 TP13	F-G, S-N	Category D SW2 H1	SG26	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being water-reactive. Highly toxic if swallowed, by skin contact or by inhalation.	3386
–	T22	TP2 TP13	F-A, S-Q	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being an oxidizer. Highly toxic if swallowed, by skin contact or by inhalation.	3387
–	T20	TP2 TP13	F-A, S-Q	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being an oxidizer. Highly toxic if swallowed, by skin contact or by inhalation.	3388
–	T22	TP2 TP13	F-A, S-B	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being corrosive. Highly toxic if swallowed, by skin contact or by inhalation.	3389



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	8	I	274	0	E0	P602	–	–	–
3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	4.2	–	I	274	0	E0	P404	PP86	–	–
3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	4.2	–	I	274	0	E0	P400	PP86	–	–
3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE	4.2	4.3	I	274	0	E0	P404	PP86	–	–
3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE	4.2	4.3	I	274	0	E0	P400	PP86	–	–
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	–	I	274	0	E0	P403	PP31	–	–
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	–	II	274	500 g	E2	P410	PP31	IBC04	–
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	–	III	223 274	1 kg	E1	P410	PP31	IBC06	–
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	4.1	I	274	0	E0	P403	PP31	–	–
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	4.1	II	274	500 g	E2	P410	PP31	IBC04	–
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	4.1	III	223 274	1 kg	E1	P410	PP31	IBC06	–
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	4.2	I	274	0	E0	P403	PP31	–	–
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	4.2	II	274	500 g	E2	P410	PP31	IBC04	–
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	4.2	III	223 274	1 kg	E1	P410	PP31	IBC06	–
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	–	I	274	0	E0	P402	PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T20	TP2 TP13	F-A, S-B	Category D SW2	–	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being corrosive. Highly toxic if swallowed, by skin contact or by inhalation.	3390
–	T21	TP7 TP33 TP36	F-G, S-M	Category D H1	SG26 SG72	Liable to ignite spontaneously in air. If shaken, may produce sparks.	3391
–	T21	TP2 TP7 TP36	F-G, S-M	Category D H1	SG26 SG63 SG72	Highly flammable liquid. Liable to ignite spontaneously in air. In contact with air, evolve irritating and slightly toxic fumes.	3392
–	T21	TP7 TP33 TP36 TP41	F-G, S-M	Category D H1	SG26 SG35 SG72	Liable to ignite spontaneously in air. If shaken, may produce sparks. React violently with moisture, water and acids, evolving flammable gas.	3393
–	T21	TP2 TP7 TP36 TP41	F-G, S-M	Category D H1	SG26 SG35 SG63 SG72	Highly flammable liquid. Liable to ignite spontaneously in air. In contact with air, evolve irritating and slightly toxic fumes. React violently with moisture, water and acids, evolving flammable gas.	3394
–	T9	TP7 TP33 TP36 TP41	<u>F-G</u> , S-N	Category E SW2 H1	SG26 SG35 SG72	Reacts violently with moisture, water and acids, evolving flammable gas.	3395
–	T3	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3395
–	T1	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3395
–	T9	TP7 TP33 TP36 TP41	<u>F-G</u> , S-N	Category E SW2 H1	SG26 SG35 SG72	Flammable solid. Reacts violently with moisture, water and acids, evolving flammable gas.	3396
–	T3	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3396
–	T1	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3396
–	T9	TP7 TP33 TP36 TP41	<u>F-G</u> , S-N	Category E SW2 H1	SG26 SG35 SG72	Liable to self-heating or spontaneous combustion. Reacts violently with moisture, water and acids, evolving flammable gas.	3397
–	T3	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3397
–	T1	TP33 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3397
–	T13	TP2 TP7 TP36 TP41	<u>F-G</u> , S-N	Category E SW2 H1	SG26 SG35 SG72	Reacts violently with moisture, water and acids, evolving flammable gas.	3398

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	–	II	274	500 mL	E2	P001	PP31	IBC01	–
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	–	III	223 274	1 L	E1	P001	PP31	IBC02	–
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	3	I	274	0	E0	P402	PP31	–	–
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	3	II	274	500 mL	E2	P001	PP31	IBC01	–
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	3	III	223 274	1 L	E1	P001	PP31	IBC02	–
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	–	II	274	500 g	E2	P410	–	IBC06	–
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	–	III	223 274	1 kg	E1	P002	–	IBC08	–
3401	ALKALI METAL AMALGAM, SOLID	4.3	–	I	182	0	E0	P403	PP31	–	–
3402	ALKALINE EARTH METAL AMALGAM, SOLID	4.3	–	I	183	0	E0	P403	PP31	–	–
3403	POTASSIUM METAL ALLOYS, SOLID	4.3	–	I	–	0	E0	P403	PP31	–	–
3404	POTASSIUM SODIUM ALLOYS, SOLID	4.3	–	I	–	0	E0	P403	PP31	–	–
3405	BARIUM CHLORATE SOLUTION	5.1	6.1	II	–	1 L	E2	P504	–	IBC02	–
3405	BARIUM CHLORATE SOLUTION	5.1	6.1	III	223	5 L	E1	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T7	TP2 TP7 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	Reacts violently with moisture, water and acids, evolving flammable gas.	3398
–	T7	TP2 TP7 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3398
–	T13	TP2 TP7 TP36 TP41	F-G, S-N	Category D SW2 H1	SG26 SG35 SG72	Flammable liquid. Reacts violently with moisture, water and acids, evolving flammable gas.	3399
–	T7	TP2 TP7 TP36 TP41	F-G, S-N	Category D SW2 H1	SG26 SG35 SG72	See entry above.	3399
–	T7	TP2 TP7 TP36 TP41	F-G, S-N	Category E SW2 H1	SG26 SG35 SG72	See entry above.	3399
–	T3	TP33 TP36	F-A, S-J	Category C	SG72	Liable to self-heating or spontaneous combustion.	3400
–	T1	TP33 TP36	F-A, S-J	Category C	SG72	See entry above.	3400
–	T9	TP7 TP33	F-G, S-N	Category D H1	SGG7 SGG11 SG26 SG35	Silvery solid, consisting of metal alloyed with mercury. Reacts with moisture, water or acids, evolving hydrogen, a flammable gas. When heated, evolves toxic vapours.	3401
–	T9	TP7 TP33	F-G, S-N	Category D H1	SGG7 SGG11 SG26 SG35	Consists of metal alloyed with mercury. Contains 2% to 10% alkaline earth metals and may contain up to 98% mercury. Reacts with moisture, water or acids, evolving hydrogen, a flammable gas. When heated, evolves toxic vapours.	3402
–	T9	TP7 TP33	F-G, S-L	Category D H1	SG26 SG35	Soft, silvery metal. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	3403
–	T9	TP7 TP33	F-G, S-L	Category D H1	SG26 SG35	Soft, silvery metal. Floats on water. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction. Highly reactive, sometimes with explosive effect.	3404
–	T4	TP1	F-H, S-Q	Category A	SGG4 SG38 SG49 SG62	Colourless aqueous solution. Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by inhalation. Leakage and subsequent evaporation of the water from the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion, .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3405
–	T4	TP1	F-H, S-Q	Category A	SGG4 SG38 SG49 SG62	See entry above.	3405

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3406	BARIUM PERCHLORATE SOLUTION	5.1	6.1	II	–	1 L	E2	P504	–	IBC02	–
3406	BARIUM PERCHLORATE SOLUTION	5.1	6.1	III	223	5 L	E1	P001	–	IBC02	–
3407	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	–	II	–	1 L	E2	P504	–	IBC02	–
3407	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	–	III	223	5 L	E1	P504	–	IBC02	–
3408	LEAD PERCHLORATE SOLUTION	5.1	6.1 P	II	–	1 L	E2	P504	–	IBC02	–
3408	LEAD PERCHLORATE SOLUTION	5.1	6.1 P	III	223	5 L	E1	P001	–	IBC02	–
3409	CHLORONITROBENZENES, LIQUID	6.1	–	II	279	100 mL	E4	P001	–	IBC02	–
3410	4-CHLORO- <i>o</i> -TOLUIDINE HYDROCHLORIDE SOLUTION	6.1	–	III	223	5 L	E1	P001	–	IBC03	–
3411	<i>beta</i> -NAPHTHYLAMINE SOLUTION	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
3411	<i>beta</i> -NAPHTHYLAMINE SOLUTION	6.1	–	III	223	5 L	E1	P001	–	IBC02	–
3412	FORMIC ACID with not less than 10% but not more than 85% acid by mass	8	–	II	–	1 L	E2	P001	–	IBC02	–
3412	FORMIC ACID with not less than 5% but less than 10% acid by mass	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3413	POTASSIUM CYANIDE SOLUTION	6.1	– P	I	–	0	E5	P001	PP31	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T4	TP1	F-H, S-Q	Category A	SGG13 SG38 SG49 SG62	Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are liable to ignite. When involved in a fire, may cause an explosion. Toxic if swallowed, by skin contact or by inhalation. Leakage and subsequent evaporation of the water from the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion, .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3406
–	T4	TP1	F-H, S-Q	Category A	SGG13 SG38 SG49 SG62	See entry above.	3406
–	T4	TP1	F-H, S-Q	Category A	SGG4 SG38 SG49 SG62	Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are liable to ignite. When involved in a fire, may cause an explosion. Leakage and subsequent evaporation of the water from the solutions may present increased dangers as follows: .1 in contact with combustible material (particularly fibrous material such as jute, cotton or sisal) or sulphur, danger of spontaneous combustion, .2 in contact with ammonium compounds, powdered metals or oils, danger of explosion.	3407
–	T4	TP1	F-H, S-Q	Category A	SGG4 SG38 SG49 SG62	See entry above.	3407
–	T4	TP1	F-H, S-Q	Category A	SGG7 SGG9 SGG13 SG38 SG49	Reacts vigorously with sulphuric acid. Reacts fiercely with cyanides when heated. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are liable to ignite. When involved in a fire, may cause an explosion.	3408
–	T4	TP1	F-H, S-Q	Category A	SGG7 SGG9 SGG13 SG38 SG49	See entry above.	3408
–	T7	TP2	F-A, S-A	Category A	–	Yellow liquid. Toxic if swallowed, by skin contact or by inhalation.	3409
–	T4	TP1	F-A, S-A	Category A	–	Toxic if swallowed, by skin contact or by inhalation.	3410
–	T7	TP2	F-A, S-A	Category A	–	Toxic if swallowed, by skin contact or by inhalation.	3411
–	T7	TP2	F-A, S-A	Category A	–	See entry above.	3411
–	T7	TP2	F-A, S-B	Category A SW2	SGG1 SG36 SG49	Colourless liquid with a pungent odour. Corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3412
–	T4	TP1	F-A, S-B	Category A SW2	SGG1 SG36 SG49	See entry above.	3412
–	T14	TP2 TP13	F-A, <u>S-A</u>	Category B	SGG6 SG35	Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed or by skin contact.	3413

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3413	POTASSIUM CYANIDE SOLUTION	6.1	– P	II	–	100 mL	E4	P001	PP31	IBC02	–
3413	POTASSIUM CYANIDE SOLUTION	6.1	– P	III	223	5 L	E1	P001 LP01	PP31	IBC03	–
3414	SODIUM CYANIDE SOLUTION	6.1	– P	I	–	0	E5	P001	PP31	–	–
3414	SODIUM CYANIDE SOLUTION	6.1	– P	II	–	100 mL	E4	P001	PP31	IBC02	–
3414	SODIUM CYANIDE SOLUTION	6.1	– P	III	223	5 L	E1	P001 LP01	PP31	IBC03	–
3415	SODIUM FLUORIDE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3416	CHLOROACETOPHENONE, LIQUID	6.1	–	II	–	0	E0	P001	–	IBC02	–
3417	XYLYL BROMIDE, SOLID	6.1	–	II	–	0	E4	P002	–	IBC08	B4 B21
3418	2,4-TOLUYLENEDIAMINE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3419	BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3420	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3421	POTASSIUM HYDROGEN DIFLUORIDE SOLUTION	8	6.1	II	–	1 L	E2	P001	–	IBC02	–
3421	POTASSIUM HYDROGEN DIFLUORIDE SOLUTION	8	6.1	III	223	5 L	E1	P001	–	IBC03	–
3422	POTASSIUM FLUORIDE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3423	TETRAMETHYLAMMONIUM HYDROXIDE, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3424	AMMONIUM DINITRO- <i>o</i> -CRESOLATE SOLUTION	6.1	– P	II	–	100 mL	E4	P001	–	IBC02	–
3424	AMMONIUM DINITRO- <i>o</i> -CRESOLATE SOLUTION	6.1	– P	III	223	5 L	E1	P001	–	IBC02	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B	SGG6 SG35	Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed or by skin contact.	3413
–	T7	TP2 TP13 TP28	F-A, <u>S-A</u>	Category A	SGG6 SG35	See entry above.	3413
–	T14	TP2 TP13	F-A, <u>S-A</u>	Category B	SGG6 SG35	Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Highly toxic if swallowed or by skin contact.	3414
–	T11	TP2 TP13 TP27	F-A, <u>S-A</u>	Category B	SGG6 SG35	See entry above.	3414
–	T7	TP2 TP13 TP28	F-A, <u>S-A</u>	Category A	SGG6 SG35	See entry above.	3414
–	T4	TP1	F-A, S-A	Category A	SG35	Colourless liquid. Reacts with acids, evolving hydrogen fluoride, a toxic, irritating and corrosive gas, apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation.	3415
–	T7	TP2 TP13	F-A, S-A	Category D SW1 SW2 H2	–	Liquid evolving irritating vapour (“Tear Gas”). Toxic if swallowed, by skin contact or by inhalation.	3416
–	T3	TP33	F-A, S-G	Category D SW2	–	Crystals or powder, evolving irritating vapour (“Tear Gas”). Toxic if swallowed, by skin contact or by inhalation.	3417
–	T4	TP1	F-A, S-A	Category A	–	Toxic if swallowed, by skin contact or by inhalation.	3418
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White crystalline solid. Melting point: 23°C. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3419
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	White crystalline solid. Melting point: 28°C. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3420
–	T7	TP2	F-A, S-B	Category A SW1 SW2	SGG1 SG35 SG36 SG49	Decomposed by heat or acids, evolving hydrogen fluoride, a toxic, extremely irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3421
–	T4	TP1	F-A, S-B	Category A SW1 SW2	SGG1 SG35 SG36 SG49	See entry above.	3421
–	T4	TP1	F-A, S-A	Category A	SG35	Decomposed by acids, evolving hydrogen fluoride, an irritating and corrosive gas. Toxic if swallowed, by skin contact or by inhalation.	3422
–	T3	TP33	F-A, S-B	Category A	SGG2 SGG18 SG35	Very soluble in water. Reacts violently with acids.	3423
–	T7	TP2	F-A, <u>S-A</u>	Category B	SGG2 SG15 SG16 SG30 SG63	The commercial product is a 50% suspension in water. May support combustion and burn without oxygen. When involved in a fire, evolves toxic fumes. Forms extremely sensitive explosive compounds with lead, silver or other heavy metals and their compounds. Toxic if swallowed, by skin contact or by inhalation.	3424
–	T7	TP2	F-A, <u>S-A</u>	Category A	SGG2 SG15 SG16 SG30 SG63	See entry above.	3424



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3425	BROMOACETIC ACID, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3426	ACRYLAMIDE SOLUTION	6.1	–	III	223	5 L	E1	P001 LP01	–	IBC03	–
3427	CHLOROBENZYL CHLORIDES, SOLID	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3428	3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3429	CHLOROTOLUIDINES, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3430	XYLENOLS, LIQUID	6.1	–	II	–	100 mL	E4	P001	–	IBC02	–
3431	NITROBENZOTRIFLUORIDES, SOLID	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
3432	POLYCHLORINATED BIPHENYLS, SOLID	9	– P	II	305 958	1 kg	E2	P906	–	IBC08	B4 B21
3434	NITROCRESOLS, LIQUID	6.1	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3436	HEXAFLUOROACETONE HYDRATE, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3437	CHLOROCRESOLS, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3438	<i>alpha</i> -METHYLBENZYL ALCOHOL, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3439	NITRILES, SOLID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3439	NITRILES, SOLID, TOXIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3439	NITRILES, SOLID, TOXIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	–	I	274	0	E5	P001	–	–	–
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	–	II	274	100 mL	E4	P001	–	IBC02	–
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	–	III	223 274	5 L	E1	P001	–	IBC03	–
3441	CHLORODINITROBENZENES, SOLID	6.1	– P	II	279	500 g	E4	P002	–	IBC08	B4 B21
3442	DICHLOROANILINES, SOLID	6.1	– P	II	279	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T3	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Colourless, deliquescent crystals. Melting point: 51°C. Corrosive to most metals. Harmful if swallowed. Causes burns to eyes and skin.	3425
–	T4	TP1	F-A, S-A	Category A SW1 H2	–	Toxic if swallowed, by skin contact or by inhalation.	3426
–	T1	TP33	F-A, <u>S-A</u>	Category A	–	Colourless crystalline solid. Melting point: 29°C. Immiscible with or insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3427
–	T3	TP33	F-A, S-A	Category B SW2	–	Colourless solid with a pungent odour. Melting point: 23°C. Insoluble in water. Reacts with water, evolving carbon dioxide. Toxic if swallowed, by skin contact or by inhalation. Irritating to skin, eyes and mucous membranes.	3428
–	T4	TP1	F-A, S-A	Category A	–	Brown liquid. Toxic if swallowed, by skin contact or by inhalation.	3429
–	T7	TP2	F-A, S-A	Category A	–	The commercial products are liquids with a pungent tar odour. Toxic if swallowed, by skin contact or by inhalation.	3430
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	–	Low melting point (31°C to 32°C) solids with an aromatic odour. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3431
–	T3	TP33	F-A, <u>S-A</u>	Category A	SG50	Solids with perceptible odour. Insoluble in water. Harmful by ingestion or by skin contact. If spilled, can be a persistent hazard to the environment. This entry also covers articles, such as rags, cotton waste, clothing or sawdust, containing polychlorinated biphenyls where no free visible liquid is present.	3432
–	T4	TP1	F-A, S-A	Category A	–	Slightly miscible in water. Toxic if swallowed, by skin contact or by inhalation.	3434
–	T3	TP33	F-A, S-A	Category B SW2	–	This entry covers solid hydrate and hexafluoroacetone. Melting point of the pure substance: 23°C. Toxic if swallowed, by skin contact or by inhalation.	3436
–	T3	TP33	F-A, S-A	Category A SW1 H2	–	White or pink crystals with a phenol-like odour. Melting point: 45°C to 68°C. Slightly soluble in water. Decomposes when heated, evolving extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.	3437
–	T1	TP33	F-A, S-A	Category A	–	Slightly soluble in water. Melting point: 21°C (pure substance). Toxic if swallowed, by skin contact or by inhalation.	3438
–	T6	TP33	F-A, S-A	Category B	SG35	Solid, evolving toxic vapours. Reacts with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Soluble in water. Toxic if swallowed, by skin contact or by inhalation.	3439
–	T3	TP33	F-A, S-A	Category B	SG35	See entry above.	3439
–	T1	TP33	F-A, S-A	Category A	SG35	See entry above.	3439
–	T14	TP2 TP27	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3440
–	T11	TP2 TP27	F-A, S-A	Category B	–	See entry above.	3440
–	T7	TP1 TP28	F-A, S-A	Category A	–	See entry above.	3440
–	T3	TP33	F-A, <u>S-A</u>	Category A	SG15	Crystals. Melting point: 27°C to 53°C. May explode if involved in a fire. Toxic if swallowed, by skin contact or by inhalation.	3441
–	T3	TP33	F-A, <u>S-A</u>	Category A SW2	–	Solid with a penetrating odour. Liquid mixtures of various isomers of dichloroanilines, some of which in the pure state may be solid, with a melting point varying from 24°C to 72°C. Toxic if swallowed, by skin contact or by inhalation.	3442



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3443	DINITROBENZENES, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3444	NICOTINE HYDROCHLORIDE, SOLID	6.1	–	II	43	500 g	E4	P002	–	IBC08	B4 B21
3445	NICOTINE SULPHATE, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3446	NITROTOLUENES, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3447	NITROXYLENES, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	–	I	274	0	E0	P002	PP31	–	–
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	–	II	274	0	E0	P002	PP31	IBC08	B4 B21
3449	BROMOBENZYL CYANIDES, SOLID	6.1	–	I	138	0	E5	P002	PP31	–	–
3450	DIPHENYLCHLOROARSINE, SOLID	6.1	– P	I	–	0	E0	P002	PP31	IBC07	B1
3451	TOLUIDINES, SOLID	6.1	– P	II	279	500 g	E4	P002	–	IBC08	B4 B21
3452	XYLIDINES, SOLID	6.1	–	II	–	500 g	E4	P002	–	IBC08	B4 B21
3453	PHOSPHORIC ACID, SOLID	8	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3454	DINITROTOLUENES, SOLID	6.1	– P	II	–	500 g	E4	P002	–	IBC08	B4 B21
3455	CRESOLS, SOLID	6.1	8	II	–	500 g	E4	P002	–	IBC08	B4 B21
3456	NITROSYLSULPHURIC ACID, SOLID	8	–	II	–	1 kg	E2	P002	–	IBC08	B4 B21
3457	CHLORONITROTOLUENES, SOLID	6.1	– P	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3458	NITROANISOLES, SOLID	6.1	–	III	279	5 kg	E1	P002 LP02	–	IBC08	B3
3459	NITROBROMOBENZENES, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T3	TP33	F-A, S-A	Category A	SG15	May explode if involved in a fire. Toxic if swallowed, by skin contact or by inhalation.	3443
–	T3	TP33	F-A, S-A	Category A	–	Deliquescent crystals or solids or pastes. Soluble in water. Toxic if swallowed, by skin contact or by inhalation.	3444
–	T3	TP33	F-A, S-A	Category A	–	Solid or paste. Soluble in water. Toxic if swallowed, by skin contact or by inhalation.	3445
–	T3	TP33	F-A, S-A	Category A	–	Yellow solid. Melting point: <i>para</i> -NITROTOLUENE: 52°C to 54°C. Toxic if swallowed, by skin contact or by inhalation.	3446
–	T3	TP33	F-A, S-A	Category A	–	Yellow solid. Melting points: 4-NITRO-2-XYLENE: 29°C to 31°C, 5-NITRO-3-XYLENE: 72°C to 74°C. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3447
–	T6	TP33	F-A, S-A	Category D SW2	–	“Tear gas substance” is a generic term for substances which, in minute quantities dispersed in air, cause extreme eye irritation and profuse tears. Toxic if swallowed, by skin contact or by inhalation.	3448
–	T3	TP33	F-A, S-A	Category D SW2	–	See entry above.	3448
–	T6	TP33	F-A, S-A	Category D SW1 SW2 H2	SGG6 SG35	Volatile, yellow crystals evolving irritating vapours (“Tear Gas”). Melting point: <i>meta</i> -BROMOBENZYL CYANIDE 25°C. Highly toxic if swallowed, by skin contact or by inhalation.	3449
–	T6	TP33	F-A, <u>S-A</u>	Category D SW2	–	When pure, volatile, colourless crystals evolving an irritating vapour (“Tear Gas”). Melting point: 41°C. Highly toxic if swallowed, by skin contact or by inhalation.	3450
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	<i>para</i> -TOLUIDINE is solid in pure form, with a melting point of approximately 45°C. Toxic if swallowed, by skin contact or by inhalation.	3451
–	T3	TP33	F-A, S-A	Category A	–	3,4-Dimethylaniline is a solid, which has a melting point of 47°C. Toxic if swallowed, by skin contact or by dust inhalation.	3452
–	T1	TP33	F-A, S-B	Category A	SGG1 SG36 SG49	Very deliquescent, crystalline solid. Melting point: 42°C. Soluble in water. Mildly corrosive to most metals.	3453
–	T3	TP33	F-A, <u>S-A</u>	Category A	–	Yellow crystals or flakes, insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3454
–	T3	TP33	F-A, S-B	Category B	–	Light yellow solid. Soluble in water. Melting points of CRESOLS: <i>ortho</i> -CRESOL: 30°C, <i>para</i> -CRESOL: 35°C. Toxic if swallowed, by skin contact or by inhalation. Cause burns to skin, eyes and mucous membranes.	3455
–	T3	TP33	F-A, S-B	Category D SW2	SGG1 SG6 SG16 SG17 SG19 SG36 SG49	Crystalline solid. Oxidant which may cause fire with organic materials (such as wood, straw, etc.). When involved in a fire, evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3456
–	T1	TP33	F-A, <u>S-A</u>	Category A	SG6 SG8 SG10 SG12	Melting range 20°C to 40°C. Insoluble in water. Oxidizing substance which may explode or burn fiercely when in contact with organic materials. Toxic if swallowed, by skin contact or by inhalation.	3457
–	T1	TP33	F-A, S-A	Category A	–	Light reddish or amber crystals. Melting points: 38°C to 54°C. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3458
–	T1	TP33	F-A, S-A	Category A	–	Colourless to pale yellow crystals which may liquefy under transport conditions. Melting points: 1-BROMO-2-NITROBENZENE: 43°C. 1-BROMO-4-NITROBENZENE: 127°C. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3459

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3460	N-ETHYLBENZYL TOLUIDINES, SOLID	6.1	–	III	–	5 kg	E1	P002 LP02	–	IBC08	B3
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	–	I	210 274	0	E5	P002	–	IBC07	B1
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	–	II	210 274	500 g	E4	P002	–	IBC08	B4 B21
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	–	III	210 223 274	5 kg	E1	P002	–	IBC08	B3
3463	PROPIONIC ACID, with not less than 90% acid by mass	8	3	II	–	1 L	E2	P001	–	IBC02	–
3464	ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	I	43 274	0	E5	P002	–	IBC07	B1
3464	ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	II	43 274	500 g	E4	P002	–	IBC08	B4 B21
3464	ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	III	43 223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3467	ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	I	274	0	E5	P002	–	IBC07	B1
3467	ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	II	274	500 g	E4	P002	–	IBC08	B4 B21
3467	ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.	6.1	–	III	223 274	5 kg	E1	P002 LP02	–	IBC08	B3
3468	HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT	2.1	–	–	321 356	0	E0	P205	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T1	TP33	F-A, S-A	Category A	–	Solid which may liquefy under transport conditions. Strong odour. Insoluble in water. Toxic if swallowed, by skin contact or by inhalation.	3460
–	T6	TP33	F-A, S-A	Category B	–	Toxins from plant, animal or bacterial sources which contain infectious substances or toxins that are contained in infectious substances should be classified in class 6.2. Toxic if swallowed, by skin contact or by inhalation.	3462
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3462
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3462
–	T7	TP2	F-E, S-C	Category A	SGG1 SG36 SG49	Colourless flammable liquid with a pungent odour. Miscible with water. Corrosive to lead and most other metals. Burns skin. Vapours irritate mucous membranes. Pure PROPIONIC ACID: flashpoint 50°C c.c.	3463
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3464
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3464
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3464
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3465
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3465
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3465
–	T6	TP33	F-A, S-A	Category D SW2	–	Insoluble in water. Toxic if swallowed, by skin contact or by dust inhalation.	3466
–	T3	TP33	F-A, S-A	Category D SW2	–	See entry above.	3466
–	T1	TP33	F-A, S-A	Category D SW2	–	See entry above.	3466
–	T6	TP33	F-A, S-A	Category B	–	Toxic if swallowed, by skin contact or by inhalation.	3467
–	T3	TP33	F-A, S-A	Category B	–	See entry above.	3467
–	T1	TP33	F-A, S-A	Category A	–	See entry above.	3467
–	–	–	F-D, S-U	Category D	–	Article containing flammable odourless gas, which is much lighter than air.	3468

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)	3	8	I	163 367	0	E0	P001	–	–	–
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)	3	8	II	163 367	1 L	E2	P001	–	IBC02	–
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)	3	8	III	163 223 367	5 L	E1	P001	–	IBC03	–
3470	PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning or reducing compound)	8	3	II	163 367	1 L	E2	P001	–	IBC02	–
3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.	8	6.1	II	–	1 L	E2	P001	–	IBC02	–
3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.	8	6.1	III	223	5 L	E1	P001	–	IBC03	–
3472	CROTONIC ACID, LIQUID	8	–	III	–	5 L	E1	P001 LP01	–	IBC03	–
3473	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT containing flammable liquids	3	–	–	328	1 L	E0	P004	–	–	–
3474	1-HYDROXYBENZOTRIAZOLE MONOHYDRATE	4.1	–	I	–	0	E0	P406	PP48	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T11	TP2 TP27	F-E, S-C	Category E SW2	–	Miscibility with water depends upon the composition. Corrosive contents cause burns to skin, eyes and mucous membranes.	3469
–	T7	TP2 TP8 TP28	F-E, S-C	Category B SW2	–	See entry above.	3469
–	T4	TP1 TP29	F-E, S-C	Category A SW2	–	See entry above.	3469
–	T7	TP2 TP8 TP28	F-E, S-C	Category B SW2	–	Miscibility with water depends upon the composition. Corrosive contents cause burns to skin, eyes and mucous membranes.	3470
–	T7	TP2	F-A, S-B	Category A SW1 SW2	SG35	When involved in a fire or in contact with acids, evolves hydrogen fluoride, an extremely irritating and corrosive gas. Corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3471
–	T4	TP1	F-A, S-B	Category A SW1 SW2	SG35	See entry above.	3471
–	T4	TP1	F-A, S-B	Category A SW1 H2	SGG1 SG36 SG49	Causes burns to skin, eyes and mucous membranes.	3472
–	–	–	F-E, S-D	Category A	–	Fuel cell cartridges containing flammable liquids including methanol or methanol/water solutions. Fuel cell cartridges may also be shipped in, or packed with, equipment.	3473
–	–	–	F-B, S-J	Category D	SG7 SG30	Desensitized explosive. White to light beige powder. Explosive and sensitive to friction in the dry state. When involved in a fire, evolves toxic fumes; in closed compartments these fumes may form an explosive mixture with air. May form extremely sensitive compounds with heavy metals or their salts.	3474

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3475	ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% ethanol	3	–	II	333	1 L	E2	P001	–	IBC02	–
3476	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing water-reactive substances	4.3	–	–	328 334	500 mL or 500 g	E0	P004	–	–	–
3477	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing corrosive substances	8	–	–	328 334	1 L or 1 kg	E0	P004	–	–	–
3478	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas	2.1	–	–	328 338	120 mL	E0	P004	–	–	–
3479	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride	2.1	–	–	328 339	120 mL	E0	P004	–	–	–
3480	LITHIUM ION BATTERIES (including lithium ion polymer batteries)	9	–	–	188 230 310 348 376 377 384 387	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906	–	–	–
△ 3481	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)	9	–	–	188 230 310 348 360 376 377 384 387 390	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906	–	–	–
3482	ALKALI METAL DISPERSION, FLAMMABLE or ALKALINE EARTH METAL DISPERSION, FLAMMABLE	4.3	3	I	182 183	0	E0	P402	PP31	–	–
3483	MOTOR FUEL ANTI-KNOCK MIXTURE, FLAMMABLE	6.1	3 P	I	–	0	E0	P602	–	–	–

Portable tanks and bulk containers			EmS  (15) 5.4.3.2 7.8	Stowage and handling  (16a) 7.1 7.3–7.7	Segregation  (16b) 7.2–7.7	Properties and observations  (17)	UN No.  (18)
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
–	T4	TP1	F-E, S-E	Category E	–	Colourless, volatile liquids. Miscibility with water depends on the composition.	3475
–	–	–	F-G, S-P	Category A H1	SG26	Fuel cell cartridges containing water-reactive substances may also be shipped in, or packed with, equipment.	3476
–	–	–	F-A, S-B	Category A	–	Fuel cell cartridges containing corrosive substances may also be shipped in, or packed with, equipment.	3477
–	–	–	F-D, S-U	Category B	–	Fuel cell cartridges containing butane or other flammable liquefied gas may also be shipped in, or packed with, equipment.	3478
–	–	–	F-D, S-U	Category B	–	Fuel cell cartridges containing hydrogen, butane or other flammable odourless gas, which is much lighter than air, may also be shipped in or packed with equipment.	3479
–	–	–	F-A, S-I	Category A SW19	–	Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.	3480
–	–	–	F-A, S-I	Category A SW19	–	Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.	3481
–	–	–	<u>F-G</u> , S-N	Category D H1	SG26 SG35	Finely divided alkali or alkaline earth metal suspended in a flammable liquid. Reacts violently with moisture, water or acids, evolving hydrogen, which may be ignited by the heat of the reaction.	3482
–	T14	TP2 TP13	F-E, <u>S-D</u>	Category D SW1 SW2	SGG7 SGG9	Volatile flammable liquids evolving toxic vapour. Mixture of tetraethyllead or tetramethyllead with ethylene dibromide and ethylene dichloride. Insoluble in water. Highly toxic if swallowed, by skin contact or by inhalation.	3483



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3484	HYDRAZINE AQUEOUS SOLUTION, FLAMMABLE with more than 37% hydrazine, by mass	8	3 6.1	I	–	0	E0	P001	–	–	–
3485	CALCIUM HYPOCHLORITE, DRY, CORROSIVE or CALCIUM HYPOCHLORITE MIXTURE, DRY, CORROSIVE with more than 39% available chlorine (8.8% available oxygen)	5.1	8 P	II	314	1 kg	E2	P002	PP85	–	–
3486	CALCIUM HYPOCHLORITE MIXTURE, DRY, CORROSIVE with more than 10% but not more than 39% available chlorine	5.1	8 P	III	314	5 kg	E1	P002	PP85	–	–
3487	CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water	5.1	8 P	II	314 322	1 kg	E2	P002	PP85	–	–
3487	CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water	5.1	8 P	III	223 314	5 kg	E1	P002	PP85	–	–
3488	TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	3 8	I	274	0	E0	P601	–	–	–
3489	TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	3 8	I	274	0	E0	P602	–	–	–
3490	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m³ and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	4.3 3	I	274	0	E0	P601	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T10	TP2 TP13	F-E, <u>S-C</u>	Category D SW2	SGG18 SG5 SG8 SG35	Colourless flammable liquid. Powerful reducing agent, burns readily. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.	3484
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish corrosive solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3485
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish corrosive solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3486
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	White or yellowish corrosive solid (powder, granules or tablets) with chlorine-like odour. Soluble in water. May cause fire in contact with organic material or ammonium compounds. Substances are liable to exothermic decomposition at elevated temperatures. This condition may lead to fire or explosion. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds). Liable to heat slowly. Reacts with acids, evolving chlorine, an irritating, corrosive and toxic gas. In the presence of moisture, corrosive to most metals. Causes burns to skin, eyes and mucous membranes.	3487
–	–	–	F-H, S-Q	Category D SW1 SW11	SGG8 SG35 SG38 SG49 SG53 SG60	See entry above.	3487
–	T22	TP2 TP13	F-E, S-D	Category D SW2	SG5 SG8	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being flammable and corrosive. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3488
–	T20	TP2 TP13	F-E, S-D	Category D SW2	SG5 SG8	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being flammable and corrosive. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.	3489
–	T22	TP2 TP13	F-G, S-N	Category D SW2 H1	SG5 SG13 SG25 SG26	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being water-reactive and flammable. Highly toxic if swallowed, by skin contact or by inhalation.	3490



UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3491	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1000 mL/m³ and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	4.3 3	I	274	0	E0	P602	–	–	–
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3	6.1	I	343	0	E0	P001	–	–	–
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3	6.1	II	343	1 L	E2	P001	–	IBC02	–
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC	3	6.1	III	343	5 L	E1	P001	–	IBC03	–
3495	IODINE	8	6.1	III	279	5 kg	E1	P002	–	IBC08	B3
3496	BATTERIES, NICKEL-METAL HYDRIDE	9	–	–	117 963	0	E0	See SP963	–	IBC08	–
3497	KRILL MEAL	4.2	–	II	300	0	E2	P410	–	IBC06	B21
3497	KRILL MEAL	4.2	–	III	223 300	0	E1	P002 LP02	–	IBC08	B3
3498	IODINE MONOCHLORIDE, LIQUID	8	–	II	–	1 L	E0	P001	–	IBC02	–
3499	CAPACITOR, ELECTRIC DOUBLE LAYER (with an energy storage capacity greater than 0.3 Wh)	9	–	–	361	0	E0	P003	–	–	–
△ 3500	CHEMICAL UNDER PRESSURE, N.O.S.	2.2	–	–	274 362	0	E0	P206	PP97	–	–
3501	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.	2.1	–	–	274 362	0	E0	P206	PP89	–	–
3502	CHEMICAL UNDER PRESSURE, TOXIC, N.O.S.	2.2	6.1	–	274 362	0	E0	P206	PP89	–	–
3503	CHEMICAL UNDER PRESSURE, CORROSIVE, N.O.S.	2.2	8	–	274 362	0	E0	P206	PP89	–	–
3504	CHEMICAL UNDER PRESSURE, FLAMMABLE, TOXIC, N.O.S.	2.1	6.1	–	274 362	0	E0	P206	PP89	–	–
3505	CHEMICAL UNDER PRESSURE, FLAMMABLE, CORROSIVE, N.O.S.	2.1	8	–	274 362	0	E0	P206	PP89	–	–
3506	MERCURY CONTAINED IN MANUFACTURED ARTICLES	8	6.1	–	366	5 kg	E0	P003	PP90		

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
	Tank instructions	Provisions					
(12)	(13) 4.2.5 4.3	(14) 4.2.5	(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	T20	TP2 TP13	F-G, S-N	Category D SW2 H1	SG5 SG13 SG25 SG26	A variety of toxic liquids which present a highly toxic inhalation hazard as well as being water-reactive and flammable. Highly toxic if swallowed, by skin contact or by inhalation.	3491
–	T14	TP2 TP13	F-E, S-E	Category D SW2	–	Immiscible with water. Evolves hydrogen sulphide, which is a flammable, toxic gas with a foul odour, heavier than air (1.2). Toxic if swallowed, by skin contact or by inhalation.	3494
–	T7	TP2	F-E, S-E	Category D SW2	–	See entry above.	3494
–	T4	TP1	F-E, S-E	Category C SW2	–	See entry above.	3494
–	T1	TP33	F-A, S-B	Category B SW2	SG37	Bluish-black solid with a metallic lustre and a pungent odour. Melting point: 114°C. Below its melting point, may evolve vapours which are irritating to skin, eyes and mucous membranes. Slightly soluble in water but soluble in most organic solvents. Corrosive to most metals.	3495
–	–	–	F-A, S-I	Category A SW1	–	Nickel-metal hydride cells or batteries packed with or contained in equipment and nickel-metal hydride button cells are not subject to the provisions of this Code.	3496
–	T3	TP33	F-A, S-J	Category B SW27	SG65	Pink to red meal derived from Krill which is a shrimp-like marine organism. Medium odour, which may affect other sensitive cargo. Liable to self-heating. Naturally rich in anti-oxidants, which lessen the risk of spontaneous heating.	3497
–	T1	TP33	F-A, S-J	Category A	–	See entry above.	3497
–	T7	TP2	F-A, S-B	Category D SW2	SGG1 SG6 SG16 SG17 SG19 SG36 SG49	Red Liquid. Reacts violently with water, evolving irritating and corrosive gases apparent as white fumes. Powerful oxidant: may cause fire in contact with organic materials such as wood, cotton or straw. In the presence of moisture, highly corrosive to most metals. Vapour irritates mucous membranes.	3498
–	–	–	F-A, S-I	Category A	–	Articles intended to store energy containing a non-dangerous activated carbon and an electrolyte. Electric double layer capacitors installed in equipment may be transported in a charged state.	3499
–	T50	TP4 TP40	F-C, S-V	Category B	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3500
–	T50	TP4 TP40	<u>F-D, S-U</u>	Category D SW2	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3501
–	T50	TP4 TP40	F-C, <u>S-V</u>	Category D SW2	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3502
–	T50	TP4 TP40	F-C, <u>S-V</u>	Category D SW2	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3503
–	T50	TP4 TP40	<u>F-D, S-U</u>	Category D SW2	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3504
–	T50	TP4 TP40	<u>F-D, S-U</u>	Category D SW2	–	Liquids, pastes or powders, pressurized with a propellant which meets the definition of a gas.	3505
–	–	–	F-A, <u>S-B</u>	Category B SW2	SG24	Articles containing mercury (UN 2809). Carriage should be prohibited in hovercraft and other ships constructed with aluminium.	3506

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3507	URANIUM HEXAFLUORIDE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE, less than 0.1 kg per package, non-fissile or fissile-excepted	6.1	7/8	I	317 369	0	E0	P603	–	–	–
3508	CAPACITOR, ASYMMETRIC (with an energy storage capacity greater than 0.3Wh)	9	–	–	372	0	E0	P003	–	–	–
3509	PACKAGINGS, DISCARDED, EMPTY, UNCLEANED	9	–	–	968	0	E0	–	–	–	–
3510	ADSORBED GAS, FLAMMABLE, N.O.S.	2.1	–	–	274	0	E0	P208	–	–	–
3511	ADSORBED GAS, N.O.S.	2.2	–	–	274	0	E0	P208	–	–	–
3512	ADSORBED GAS, TOXIC, N.O.S.	2.3	–	–	274	0	E0	P208	–	–	–
3513	ADSORBED GAS, OXIDIZING, N.O.S.	2.2	5.1	–	274	0	E0	P208	–	–	–
3514	ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S.	2.3	2.1	–	274	0	E0	P208	–	–	–
3515	ADSORBED GAS, TOXIC, OXIDIZING, N.O.S.	2.3	5.1	–	274	0	E0	P208	–	–	–
3516	ADSORBED GAS, TOXIC, CORROSIVE, N.O.S.	2.3	8	–	274 379	0	E0	P208	–	–	–
3517	ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2.3	2.1 8	–	274	0	E0	P208	–	–	–
3518	ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2.3	5.1 8	–	274	0	E0	P208	–	–	–
3519	BORON TRIFLUORIDE, ADSORBED	2.3	8	–	–	0	E0	P208	–	–	–
3520	CHLORINE, ADSORBED	2.3	5.1 8	–	–	0	E0	P208	–	–	–
3521	SILICON TETRAFLUORIDE, ADSORBED	2.3	8	–	–	0	E0	P208	–	–	–
3522	ARSINE, ADSORBED	2.3	2.1	–	–	0	E0	P208	–	–	–
3523	GERMANE, ADSORBED	2.3	2.1	–	–	0	E0	P208	–	–	–
3524	PHOSPHORUS PENTAFLUORIDE, ADSORBED	2.3	8	–	–	0	E0	P208	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	<u>F-I</u> , <u>S-S</u>	Category A SW12	SG77	See 1.5.1.	3507
–	–	–	F-A, S-I	Category A	–	Articles intended to store energy containing positive and negative electrodes comprised of different materials and an electrolyte. Asymetric capacitors may be transported in a charged state.	3508
–	–	–	–	–	–	This entry shall not be used for sea transport. Discarded packaging shall meet the requirements of 4.1.1.11. Discarded packaging means packagings, large packagings or intermediate bulk containers (IBC), or parts thereof, which have contained dangerous goods, other than radioactive material, which are transported for disposal, recycling or recovery of their material, other than reconditioning, repair, routine maintenance, remanufacturing or reuse, and which have been emptied to the extent that only residues of dangerous goods adhering to the packaging parts are present.	3509
–	–	–	F-D, S-U	Category D SW2	–	–	3510
–	–	–	F-C, S-V	Category A	–	–	3511
–	–	–	F-C, S-U	Category D SW2	–	–	3512
–	–	–	<u>F-C</u> , S-W	Category D	–	–	3513
–	–	–	F-D, S-U	Category D SW2	–	–	3514
–	–	–	<u>F-C</u> , S-W	Category D SW2	–	–	3515
–	–	–	F-C, S-U	Category D SW2	–	–	3516
–	–	–	F-D, S-U	Category D SW2	SG4 SG9	–	3517
–	–	–	<u>F-C</u> , S-W	Category D SW2	SG6 SG19	–	3518
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas. Forms dense white corrosive fumes in moist air. Reacts violently with water, evolving hydrogen fluoride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass and most metals. Much heavier than air (2.35). Highly irritating to skin, eyes and mucous membranes.	3519
–	–	–	F-C, S-W	Category D SW2	SG6 SG19	Non-flammable, toxic and corrosive yellow gas with a pungent odour. Corrosive to glass and to most metals. Much heavier than air (2.4). Highly irritating to skin, eyes and mucous membranes. Powerful oxidant which may cause fire.	3520
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with a pungent odour. Corrosive to metals. In moist air, produces hydrogen fluoride. Much heavier than air (3.6). Highly irritating to skin, eyes and mucous membranes.	3521
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a garlic odour. Explosive limits: 3.9% to 77.8%. Much heavier than air (2.8).	3522
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a pungent odour. Much heavier than air (2.6).	3523
–	–	–	F-C, S-U	Category D SW2	–	Non-flammable, toxic and corrosive gas with an irritating odour. Reacts with water or moist air to produce toxic and corrosive fumes. Corrosive to glass and to most metals. Much heavier than air (4.3). Highly irritating to skin, eyes and mucous membranes.	3524

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3525	PHOSPHINE, ADSORBED	2.3	2.1	–	–	0	E0	P208	–	–	–
3526	HYDROGEN SELENIDE, ADSORBED	2.3	2.1	–	–	0	E0	P208	–	–	–
3527	POLYESTER RESIN KIT, solid base material	4.1	–	II	236 340	5kg	E0	P412	–	–	–
3527	POLYESTER RESIN KIT, solid base material	4.1	–	III	236 340	5kg	E0	P412	–	–	–
3528	ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED	3	–	–	363 972	0	E0	P005	–	–	–
△ 3529	ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED	2.1	–	–	356 363 972	0	E0	P005	–	–	–
3530	ENGINE, INTERNAL COMBUSTION or MACHINERY, INTERNAL COMBUSTION	9	– P	–	363 972	0	E0	P005	–	–	–
3531	POLYMERIZING SUBSTANCE, SOLID, STABILIZED, N.O.S.	4.1	–	III	274 386	0	E0	P002	PP92	IBC07	B18
3532	POLYMERIZING SUBSTANCE, LIQUID, STABILIZED, N.O.S.	4.1	–	III	274 386	0	E0	P001	PP93	IBC03	B19
3533	POLYMERIZING SUBSTANCE, SOLID, TEMPERATURE CONTROLLED, N.O.S.	4.1	–	III	274 386	0	E0	P002	PP92	IBC07	B18
3534	POLYMERIZING SUBSTANCE, LIQUID, TEMPERATURE CONTROLLED, N.O.S.	4.1	–	III	274 386	0	E0	P001	PP93	IBC03	B19
3535	TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.	6.1	4.1	I	274	0	E5	P002	–	IBC99	–
3535	TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.	6.1	4.1	II	274	500 g	E4	P002	–	IBC08	B4 B21

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a garlic odour. Ignites spontaneously in air. Heavier than air (1.2). Irritating to skin, eyes and mucous membranes.	3525
–	–	–	F-D, S-U	Category D SW2	–	Flammable, toxic, colourless gas with a disagreeable odour. Much heavier than air (2.8). Highly irritating to skin, eyes and mucous membranes.	3526
–	–	–	F-A, S-G	Category B	–	Polyester resin kits consist of two components: a base material (flammable solid) and an activator (organic peroxide), each separately packed in an inner packaging.	3527
–	–	–	F-A, S-G	Category B	–	See entry above.	3527
–	–	–	F-E, S-E	Category E SW29	–	Types of articles transported under this entry include engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems or fuel cells (e.g. combustion engines, generators, compressors, turbines, heating units, etc.).	3528
–	–	–	F-D, S-U	Category E	–	Types of articles transported under this entry include engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems or fuel cells (e.g. combustion engines, generators, compressors, turbines, heating units, etc.).	3529
–	–	–	F-A, S-F	Category A	–	Types of articles transported under this entry include engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems (e.g. combustion engines, generators, compressors, turbines, heating units, etc.).	3530
–	T7	TP4 TP6 TP33	F-J, S-G	Category D SW1	SG35 SG36	Polymerizes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous polymerization. The products of combustion or self-accelerating polymerization may be toxic by inhalation.	3531
–	T7	TP4 TP6	F-J, S-G	Category D SW1	SG35 SG36	Polymerizes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous polymerization. The products of combustion or self-accelerating polymerization may be toxic by inhalation.	3532
–	T7	TP4 TP6 TP33	F-F, S-K	Category D SW1 SW3	SG35 SG36	Polymerizes at temperatures higher than the self-accelerating polymerization temperature or in a fire. Burns vigorously. Insoluble in water. Contact with alkalis or acids may cause dangerous polymerization. The products of combustion or self-accelerating polymerization may be toxic by inhalation. Control and emergency temperatures can be found in the transport document as required in 5.4.1.5.5. The temperature must be checked regularly.	3533
–	T7	TP4 TP6	F-F, S-K	Category D SW1 SW3	SG35 SG36	Polymerizes at temperatures higher than the self-accelerating polymerization temperature or in a fire. Burns vigorously. Immiscible with water. Contact with alkalis or acids may cause dangerous polymerization. The products of combustion or self-accelerating polymerization may be toxic by inhalation. Control and emergency temperatures can be found in the transport document as required in 5.4.1.5.5. The temperature must be checked regularly.	3534
–	T6	TP33	F-A, S-G	Category B	–	Toxic if swallowed, by skin contact or by dust inhalation.	3535
–	T3	TP33	F-A, S-G	Category B	–	See entry above.	3535

UN No.	Proper shipping name (PSN)	Class or division	Subsidiary hazard(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing		IBC	
						Limited quantities	Excepted quantities	Instructions	Provisions	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4	(10) 4.1.4	(11) 4.1.4
3536	LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries	9	–	–	389	0	E0	–	–	–	–
3537	ARTICLES CONTAINING FLAMMABLE GAS, N.O.S.	2.1	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3538	ARTICLES CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S.	2.2	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3539	ARTICLES CONTAINING TOXIC GAS, N.O.S.	2.3	See 2.0.6.6	–	274 391	0	E0	–	–	–	–
3540	ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S.	3	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3541	ARTICLES CONTAINING FLAMMABLE SOLID, N.O.S.	4.1	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3542	ARTICLES CONTAINING A SUBSTANCE LIABLE TO SPONTANEOUS COMBUSTION, N.O.S.	4.2	See 2.0.6.6	–	274 391	0	E0	–	–	–	–
3543	ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S.	4.3	See 2.0.6.6	–	274 391	0	E0	–	–	–	–
3544	ARTICLES CONTAINING OXIDIZING SUBSTANCE, N.O.S.	5.1	See 2.0.6.6	–	274 391	0	E0	–	–	–	–
3545	ARTICLES CONTAINING ORGANIC PEROXIDE, N.O.S.	5.2	See 2.0.6.6	–	274 391	0	E0	–	–	–	–
3546	ARTICLES CONTAINING TOXIC SUBSTANCE, N.O.S.	6.1	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3547	ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S.	8	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3548	ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS, N.O.S.	9	See 2.0.6.6	–	274 391	0	E0	P006 LP03	–	–	–
3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid	6.2	–	–	395 975	0	E0	P622 LP622	–	–	–

Portable tanks and bulk containers			EmS	Stowage and handling	Segregation	Properties and observations	UN No.
(12)	Tank instructions (13) 4.2.5 4.3	Provisions (14) 4.2.5					
			(15) 5.4.3.2 7.8	(16a) 7.1 7.3–7.7	(16b) 7.2–7.7	(17)	(18)
–	–	–	F-A, S-I	Category A	–	Cargo transport unit containing lithium metal or lithium ion batteries which is designed to serve as mobile power supply unit.	3536
–	–	–	F-D, <u>S-U</u>	Category D SW2	–	–	3537
–	–	–	F-C, <u>S-V</u>	Category A	–	–	3538
–	–	–	F-C, <u>S-U</u>	–	–	–	3539
–	–	–	F-E, <u>S-D</u>	Category B	–	–	3540
–	–	–	F-A, <u>S-G</u>	Category B	–	–	3541
–	–	–	*	–	–	* F-G, <u>S-M</u> for pyrophoric substances, F-A, <u>S-J</u> for self-heating substances	3542
–	–	–	F-G, <u>S-N</u>	–	–	–	3543
–	–	–	F-A, <u>S-Q</u>	–	–	–	3544
–	–	–	F-J, <u>S-R</u>	–	–	–	3545
–	–	–	F-A, <u>S-A</u>	Category B SW2 *	–	Toxic if swallowed, by skin contact or by dust inhalation. * When competent authority approval is required by SP391, the stowage and handling will be specified by the competent authority.	3546
–	–	–	F-A, <u>S-B</u>	Category B SW2	–	Causes burns to skin, eyes and mucous membranes.	3547
–	–	–	F-A, <u>S-P</u>	Category A	–	–	3548
–	–	–	F-A, S-T	Category E SW2 H1 H5	SG50	Waste containing substances which are dangerous to humans and/or animals.	3549

## 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. Where a special provision includes a requirement for package marking, the provisions of 5.2.1.2.1 to .4 shall be met. If the required mark is in the form of specific wording indicated in quotation marks, such as “LITHIUM BATTERIES FOR DISPOSAL”, the size of the mark shall be at least 12 mm, unless otherwise indicated in the special provision or elsewhere in this Code.
- 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”).
- 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 The division of class 2 and the subsidiary hazards depend on the nature of the contents of the aerosol dispenser. The following provisions shall apply:
- .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;
  - .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.



## Part 3 – Dangerous Goods List, special provisions and exceptions

3

- .3 Otherwise the product shall be classified as tested by the tests described in the *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;
- .4 Gases of class 2.3 shall not be used as a propellant in an aerosol dispenser;
- .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 hazard of class 6.1 or class 8;
- .6 Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall be prohibited from transport;
- .7 Except for consignments transported in limited quantities (see chapter 3.4), packages containing aerosols shall bear labels for the primary hazard and for the subsidiary hazard(s), if any.

Flammable components are flammable liquids, flammable solids or flammable gases and gas mixtures as defined in notes 1 to 3 of subsection 31.1.3 of part III of the *Manual of Tests and Criteria*. This designation does not cover pyrophoric, self-heating or water-reactive substances. The chemical heat of combustion shall be determined by one of the following methods: ASTM D240, ISO/FDIS 13943:1999 (E/F) 86.1 to 86.3 or NFPA 30B.

- 65 Hydrogen peroxide aqueous solutions with less than 8% hydrogen peroxide are not subject to the provisions of this Code.
- 66 Cinnabar is not subject to the provisions of this Code.

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- 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 hazard(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.
- 123 Only regulated when transported by air or by sea.
- 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 hazard 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 7.1.3.1, 7.1.4.4 and 7.2.3.3 shall also be considered.
- 135 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.
- 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.

## Chapter 3.3 – Special provisions applicable to certain substances, materials or articles

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- 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 Where a radioactive material has (a) subsidiary hazard(s):
- .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 hazard;
  - .2 Packages shall be labelled with subsidiary hazard labels corresponding to each subsidiary hazard exhibited by the material; corresponding placards shall be affixed to cargo transport units in accordance with the relevant provisions of 5.3.1;
  - .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 hazard(s) and which shall be enclosed in parenthesis;
  - △ .4 The dangerous goods transport document shall indicate the class or division of the subsidiary hazard 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.
- 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 hazard 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.
- 188 Cells and batteries offered for transport are not subject to other provisions of this Code if they meet the following:
- .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 Wh;
  - .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 Wh. 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;
  - .3 Each cell or battery meets the provisions of 2.9.4.1, 2.9.4.5, 2.9.4.6 if applicable and 2.9.4.7;
  - .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 electrically conductive material 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;

- .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;
- .6 Each package shall be marked with the appropriate lithium battery mark, as illustrated in 5.2.1.10;

**Note 1:** The provisions concerning marking in special provision 188 of amendment 37-14 of the Code may continue to be applied until 31 December 2018.

**Note 2:** Packages containing lithium batteries packed in conformity with the provisions of part 4, chapter 11, packing instructions 965 or 968, Section IB of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air that bear the mark as shown in 5.2.1.10 (lithium battery mark) and the label shown in 5.2.2.2.2, Model No. 9A shall be deemed to meet the provisions of this special provision.

This requirement does not apply to:

- .1 packages containing only button cell batteries installed in equipment (including circuit boards); and
- .2 packages containing no more than four cells or two batteries installed in equipment, where there are not more than two packages in the consignment.

When packages are placed in an overpack, the lithium battery mark shall either be clearly visible or be reproduced on the outside of the overpack and the overpack shall be marked with the word "OVERPACK". The lettering of the "OVERPACK" mark shall be at least 12 mm high;

- .7 Except when cells or 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
- .8 Except when cells or batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass. As used in this special provision "equipment" means apparatus for which the lithium cells or batteries will provide electrical power for its operation.

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.

A single cell battery as defined in part III, subsection 38.3.2.3 of the *Manual of Tests and Criteria* is considered a "cell" and shall be transported according to the requirements for "cells" for the purpose of this special provision.

- 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 ammonium nitrate based compound fertilizers. They shall be classified in accordance with the procedure as set out in the *Manual of Tests and Criteria*, part III, section 39.
- 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.

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- 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  $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , 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  $15^{\circ}\text{C}$ . The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at  $55^{\circ}\text{C}$ . 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 hazard label (Model No. 8, see 5.2.2.2.2).  
Articles containing smoke-producing substance(s) toxic by inhalation according to the criteria for class 6.1 shall be labelled with a "TOXIC" subsidiary hazard label (Model No. 6.1, see 5.2.2.2.2), except that those manufactured before 31 December 2016 may be transported until 1 January 2019 without a "TOXIC" subsidiary hazard label.
- 205 This entry shall not be used for PENTACHLOROPHENOL, UN 3155.
- 207 Plastics 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  $75^{\circ}\text{C}$ , 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.

## Part 3 – Dangerous Goods List, special provisions and exceptions

- 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  $-15^{\circ}\text{C}$ .
- 225 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.
- Note:** "Provisions applied in the country of manufacture" means the provisions applicable in the country of manufacture or those applicable in the country of use.
- Fire extinguishers under this entry include:
- .1 portable fire extinguishers for manual handling and operation;
  - .2 fire extinguishers for installation in aircraft;
  - .3 fire extinguishers mounted on wheels for manual handling;
  - .4 fire extinguishing equipment or machinery mounted on wheels or wheeled platforms or units transported similar to (small) trailers; and
  - .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.
- Note:** Pressure receptacles which contain gases for use in the above-mentioned extinguishers or for use in stationary fire-fighting installations shall meet the requirements in chapter 6.2 and all requirements applicable to the relevant dangerous goods when these pressure receptacles are transported separately.
- 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 *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 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 to enhance safety in vehicles, vessels or aircraft, e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices.
- 236 Polyester resin kits consist of two components: a base material (either class 3 or class 4.1, packing group II or III) and an activator (organic peroxide). The organic peroxide shall be type D, E, or F, not requiring temperature control. The packing group shall be II or III, according to the criteria of either class 3 or class 4.1, as appropriate, applied to the base material. The quantity limit shown in column 7a of the Dangerous Goods List of chapter 3.2 applies to the base material.
- 237 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 *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 *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.
- 238 .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:
- 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  $95 \pm 5$  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.

**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.

- .2 Non-spillable batteries are not subject to the provisions of this Code if, at a temperature of  $55^{\circ}\text{C}$ , 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.

239 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.

△ 240 *Deleted.*

241 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 *Manual of Tests and Criteria*, part I and not being a flammable solid when tested in accordance with test N.1 in the *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.

242 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).

243 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.

244 This entry includes materials and substances such as aluminium dross, aluminium skimmings, spent cathodes, spent potliner and aluminium salt slags.

Before loading, these by-products shall be cooled to ambient temperature, unless they have been calcined to remove moisture. Cargo transport units containing bulk loads shall be adequately ventilated and protected against ingress of water throughout the journey.

247 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 L and not more than 500 L meeting the general requirements of 4.1.1, as appropriate, on the following conditions:

- .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, 1972* (CSC Convention), 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  $23^{\circ}\text{C}$  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 Ferrocenium, stabilized against corrosion, with a minimum iron content of 10% is not subject to the provisions of this Code.

250 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:

- .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
- .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.

251 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 shall only contain dangerous goods that are permitted as:

- .1 excepted quantities not exceeding the quantity indicated by the code in column 7b of the Dangerous Goods List of chapter 3.2, provided that the net quantity per inner packaging and net quantity per package are as prescribed in 3.5.1.2 and 3.5.1.3; or
- .2 limited quantities as indicated in column 7a of the Dangerous Goods List of chapter 3.2, provided that the net quantity per inner packaging does not exceed 250 mL or 250 g.

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.

For the purposes of completion of the dangerous goods transport document as set out in 5.4.1.4.1, the packing group shown on the document shall be the most stringent packing group assigned to any individual substance in the kit. 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.

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.

252 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.

266 This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be transported, unless specifically authorized by the competent authority.

267 Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.

270 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.

271 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 *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 hazard label.

272 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).

273 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 m<sup>3</sup> 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.

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).

- For UN 3077 and UN 3082 only, the technical name may be a name shown in capital letters in column 2 of the Dangerous Goods List, provided that this name does not include "N.O.S." and that special provision 274 is not assigned. The name which most appropriately describes the substance or mixture shall be used, e.g.:

- UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)

- UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERFUMERY PRODUCTS).

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- 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 1,000 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 *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 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 I 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).
- 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:
- .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 fire-degradable 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:
- .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 *Manual of Tests and Criteria* on packages as prepared for transport (see 2.1.3).
- 289 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.
- 290 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:
- .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;

- .2 where the quantity exceeds the limits specified in 3.5.1.2, the substance shall be classified in accordance with the predominant subsidiary hazard. 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;
- .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;
- .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.
- 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-machine 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 The following definitions apply to matches:
- .1 *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;
- .2 *Safety matches* are matches that combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;
- .3 *“Strike anywhere” matches* are matches that can be ignited by friction on a solid surface;
- .4 *Wax ‘Vesta’ matches* are matches that can be ignited by friction either on a prepared surface or on a solid surface.
- 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 These entries apply to life-saving appliances such as liferafts, personal flotation devices and self-inflating 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:
- .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.
- 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 hazard 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.
- 299 Consignments of:
- .1 Cotton, dry having a density not less than 360 kg/m<sup>3</sup>;
- .2 Flax, dry having a density not less than 400 kg/m<sup>3</sup>;
- .3 Sisal, dry having a density not less than 360 kg/m<sup>3</sup>; and
- .4 Tampico fibre, dry having a density not less than 360 kg/m<sup>3</sup>,
- according to ISO 8115:1986, are not subject to the provisions of this Code when transported in closed cargo transport units.

## Chapter 3.3 – Special provisions applicable to certain substances, materials or articles

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- 300 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.
- △ 301 This entry only applies to articles such as machinery, apparatus or devices containing dangerous goods as a residue or an integral element of the articles. It shall not be used for articles for which a proper shipping name already exists in the Dangerous Goods List. Articles 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 articles shall not exceed the quantity specified in column 7a of the Dangerous Goods List for each item of dangerous goods contained. If the articles contains more than one item of dangerous goods, the individual dangerous goods shall be enclosed to prevent them reacting dangerously with one another during transport (see 4.1.1.6). When it is required to ensure liquid dangerous goods remain in their intended orientation, orientation arrows shall be displayed on at least two opposite vertical sides with the arrows pointing in the correct direction in accordance with 5.2.1.7.1.
- 302 Fumigated cargo transport units containing no other dangerous goods are only subject to the provisions of 5.5.2.
- 303 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.
- 304 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.
- 305 These substances are not subject to the provisions of this Code when in concentrations of not more than 50 mg/kg.
- 306 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).
- 307 This entry may only be used for ammonium nitrate based fertilizers. They shall be classified in accordance with the procedure as set out in the *Manual of Tests and Criteria*, part III, section 39.
- △ 308 Stabilization of fish meal shall be achieved to prevent spontaneous combustion by effective application of ethoxyquin, BHT (butylated hydroxytoluene) or tocopherols (also used in a blend with rosemary extract) at the time of production. The said application shall occur within twelve months prior to shipment. Fish scrap or fish meal shall contain at least 50 ppm (mg/kg) of ethoxyquin, 100 ppm (mg/kg) of BHT or 250 ppm (mg/kg) of tocopherol based antioxidant at the time of shipment.
- 309 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.
- △ Substances shall satisfy the criteria for classification as an ammonium nitrate emulsion, suspension or gel, intermediate for blasting explosives (ANE) of Test Series 8 of the *Manual of Tests and Criteria*, part I, section 18 and be approved by the competent authority.
- 310 The testing requirements in the *Manual of Tests and Criteria*, part III, subsection 38.3 do not apply to production runs, consisting of not more than 100 cells or batteries, or to pre-production prototypes of cells or batteries when these prototypes are transported for testing when packaged in accordance with packing instruction P910 of 4.1.4.1 or LP905 of 4.1.4.3, as applicable.
- The transport document shall include the following statement: "Transport in accordance with special provision 310".
- △ Damaged or defective cells, batteries, or cells and batteries contained in equipment shall be transported in accordance with special provision 376.
- Cells, batteries or cells and batteries contained in equipment transported for disposal or recycling may be packaged in accordance with special provision 377 and packing instruction P909 of 4.1.4.1.
- 311 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 *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.
- 314 .1 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).



## Part 3 – Dangerous Goods List, special provisions and exceptions

- 3
- .2 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.
- 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 fissile materials and packages containing fissile material which are excepted in accordance with 2.7.2.3.5.
- 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.
- △ 323 *Deleted.*
- 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 and waste gas cartridges consigned in accordance with 5.4.1.4.3.3 may be transported under UN 1950 or UN 2037, as appropriate, for the purposes of reprocessing or disposal. They need not be protected against movement and 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 LP200 and special packing provision L2. Waste gas cartridges, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special packing provisions PP17 and PP96, or packing instruction LP200 and special packing provision L2. Leaking or severely deformed aerosols and gas cartridges shall be transported in salvage pressure receptacles or salvage packagings provided appropriate measures are taken to ensure there is no dangerous build-up of pressure. Waste aerosols and waste gas cartridges shall not be transported in closed freight containers.
- Waste gas cartridges that were filled with gases of class 2.2 and have been pierced are not subject to this Code.
- 328 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.
- 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.
- 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 Each fuel cell cartridge transported under this entry and designed to contain a liquefied flammable gas shall:

- .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 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:

- .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. Each cartridge design type, including cartridges integral to a fuel cell, shall be subjected to and shall pass the following tests:

#### Drop test

A 1.8 m drop test onto an unyielding surface in four different orientations:

- .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.

#### Fire test

A fuel cell cartridge filled to rated capacity with hydrogen shall be subjected to a fire engulfment test. The cartridge design, which may include a vent feature integral to it, is deemed to have passed the fire test if:

- .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.

#### Hydrogen cycling test

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.

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.

#### Production leak test

Each fuel cell cartridge shall be tested for leaks at  $15^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , 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:

- .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 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).

341 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).

342 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:

- .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  $55^{\circ}\text{C}$  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 L 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 *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.

## Chapter 3.3 – Special provisions applicable to certain substances, materials or articles

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- 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, machinery, engines or aircraft or in completed components or intended to be installed in vehicles, vessels, machinery, engines or aircraft 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 assigned to the entry UN 3171 BATTERY POWERED VEHICLE. Lithium batteries installed in cargo transport units, designed only to provide power external to the transport unit shall be assigned to entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT.
- 361 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:
- .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;
  - .2 Each capacitor shall be protected against a potential short circuit hazard in transport as follows:
    - .1 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
    - .2 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;
  - .3 Capacitors containing dangerous goods shall be designed to withstand a 95 kPa pressure differential;
  - .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
  - .5 Capacitors manufactured after 31 December 2013 shall be marked with the energy storage capacity in Wh.

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.

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 m 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 10 Wh are subject to the provisions of this Code.

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.

**Note:** 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 2.2.1.2.2.

**Note:** A chemical under pressure in an aerosol dispenser shall be transported under UN 1950.

The following provisions shall apply:

- .1 the chemical under pressure shall be classified based on the hazard characteristics of the components in the different states:
  - the propellant;
  - the liquid; or
  - the solid.

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:

- .1 a flammable liquid is a liquid having a flashpoint of not more than 93°C;
- .2 a flammable solid is a solid which meets the criteria in 2.4.2.2 of this Code;
- .3 a flammable gas is a gas which meets the criteria in 2.2.2.1 of this Code;
- .2 gases of class 2.3 and gases with a subsidiary hazard of 5.1 shall not be used as a propellant in a chemical under pressure;
- .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 hazard 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;
- .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;
- .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.

- 363 This entry may only be used when the conditions of this special provision are met. No other provisions of this Code apply, except for special provision 972, chapter 5.4, part 7 and column 16a and 16b of the Dangerous Goods List.

- .1 This entry applies to engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems or fuel cells (e.g. combustion engines, generators, compressors, turbines, heating units, etc.), except those which are assigned under UN 3166 or UN 3363;
- .2 Engines or machinery which are empty of liquid or gaseous fuels and which do not contain other dangerous goods, are not subject to this Code.

**Note 1:** An engine or machinery is considered to be empty of liquid fuel when the liquid fuel tank has been drained and the engine or machinery cannot be operated due to a lack of fuel. Engine or machinery components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty of liquid fuels. In addition, the liquid fuel tank does not need to be cleaned or purged.



**Note 2:** An engine or machinery is considered to be empty of gaseous fuels when the gaseous fuel tanks are empty of liquid (for liquefied gases), the positive pressure in the tanks does not exceed 2 bar and the fuel shut-off or isolation valve is closed and secured.

.3 Engines and machinery containing fuels meeting the classification criteria of class 3, shall be consigned under the entries UN No. 3528 ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN 3528 ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or UN 3528 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN 3528 MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.

.4 Engines and machinery containing fuels meeting the classification criteria of class 2.1, shall be consigned under the entries UN 3529 ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN 3529 ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3529 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN 3529 MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED, as appropriate.

Engines and machinery powered by both a flammable gas and a flammable liquid shall be consigned under the appropriate UN 3529 entry.

.5 Engines and machinery containing liquid fuels meeting the classification criteria of 2.9.3 for environmentally hazardous substances and not meeting the classification criteria of any other class or division, shall be consigned under the entries UN 3530 ENGINE, INTERNAL COMBUSTION or UN 3530 MACHINERY, INTERNAL COMBUSTION, as appropriate.

.6 Engines or machinery may contain other dangerous goods than fuels (e.g. batteries, fire extinguishers, compressed gas accumulators or safety devices) required for their functioning or safe operation without being subject to any additional requirements for these other dangerous goods, unless otherwise specified in this Code.

.7 The engine or machinery, including the means of containment containing dangerous goods, shall be in compliance with the construction requirements specified by the competent authority.

.8 Any valves or openings (e.g. venting devices) shall be closed during transport.

.9 The engines or machinery shall be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the engines or machinery to prevent any movement during transport which would change the orientation or cause them to be damaged.

.10 For UN 3528 and UN 3530:

- where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of not more than 450 L, the labelling requirements of 5.2.2 shall apply;
- where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of more than 450 L but not more than 3,000 L, it shall be labelled on two opposing sides in accordance with 5.2.2;

△ – where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of more than 3,000 L, it shall be placarded on two opposing sides. Placards shall correspond to the class indicated in column 3 of the Dangerous Goods List of chapter 3.2 and shall conform to the specifications given in 5.3.1.2.1;

- in addition to the above requirements, for UN 3530, where the engine or machinery contains more than 60 L of liquid fuel and the capacity does not exceed 3,000 L, the marking requirements of 5.2.1.6 apply; and where the engine or machinery contains more than 60 L of liquid fuel and the capacity exceeds 3,000 L, the marking requirements of 5.3.2.3.2 apply.

.11 For UN 3529:

- where the fuel tank of the engine or machinery has a water capacity of not more than 450 L, the labelling requirements of 5.2.2 shall apply;
- where the fuel tank of the engine or machinery has a water capacity of more than 450 L but not more than 1,000 L, it shall be labelled on two opposing sides in accordance with 5.2.2; and

△ – where the fuel tank of the engine or machinery has a water capacity of more than 1,000 L, it shall be placarded on two opposing sides. Placards shall correspond to the class indicated in Column 3 of the Dangerous Goods List in Chapter 3.2 and shall conform to the specifications given in 5.3.1.2.1.

.12 The transport document shall contain the following additional statement “Transport in accordance with special provision 363”.

.13 The requirements specified in packing instruction P005 of 4.1.4.1 shall be met.

364 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.

365 For manufactured instruments and articles containing mercury, see UN 3506.

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- 366 Manufactured instruments and articles containing not more than 1 kg of mercury are not subject to the provisions of this Code.
- 367 For the purposes of documentation and package marking:  
The proper shipping name "PAINT RELATED MATERIAL" may be used for consignments of packages containing "PAINT" and "PAINT RELATED MATERIAL" in the same package;  
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;  
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  
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.
- 368 In the case of non-fissile or fissile-excepted uranium hexafluoride, the material shall be classified under UN 3507 or UN 2978.
- 369 In accordance with 2.0.3.5, this radioactive material in an excepted package possessing toxic and corrosive properties is classified in class 6.1 with radioactivity and corrosivity subsidiary hazards.  
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 2.7.2.3.5 are met.  
In addition to the provisions applicable to the transport of class 6.1 substances with a corrosivity subsidiary hazard, the provisions of 5.1.3.2, 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.
- △ 370 This entry only applies to ammonium nitrate that meets one of the following criteria:
- △ – ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance; or
  - 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 gives a positive result when tested in accordance with test series 2 (see *Manual of Tests and Criteria*, part I). See also UN 1942.
- This entry shall not be used for ammonium nitrate for which a proper shipping name already exists in the Dangerous Goods List of chapter 3.2 including ammonium nitrate mixed with fuel oil (ANFO) or any of the commercial grades of ammonium nitrate.
- 371 .1 This entry also applies to articles, containing a small pressure receptacle with a release device. Such articles shall comply with the following requirements:
- .1 the water capacity of the pressure receptacle shall not exceed 0.5 L and the working pressure shall not exceed 25 bar at 15°C;
  - .2 the minimum burst pressure of the pressure receptacle shall be at least four times the pressure of the gas at 15°C;
  - .3 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;
  - .4 each article shall be manufactured in such a way as to prevent hazardous projections of the pressure receptacle or parts of the pressure receptacle;
  - .5 each pressure receptacle shall be manufactured from material which will not fragment upon rupture;
  - .6 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 subparagraph (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; and
  - .7 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.
- .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

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meet the requirements in .1. The manufacturer shall provide such information to the competent authority on request.

- 372 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:

$$Wh = \frac{\frac{1}{2} C_N (U_R^2 - U_L^2)}{3,600}$$

using the nominal capacitance ( $C_N$ ), rated voltage ( $U_R$ ) and rated lower limit voltage ( $U_L$ ).

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

- .1 capacitors or modules shall be protected against short circuit;
- .2 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;
- .3 capacitors manufactured after 31 December 2015 shall be marked with the energy storage capacity in Wh;
- .4 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 m 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.

- 373 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:
  - .1 the pressure in each detector shall not exceed 105 kPa absolute at 20°C;
  - .2 the amount of gas shall not exceed 13 g per detector;
  - .3 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.

  - .4 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 1,800 kPa as demonstrated by design type qualification testing; and
  - .5 each detector shall be tested to a  $1 \times 10^{-10}$  cm<sup>3</sup>/s leak tightness standard before filling.
- .2 Radiation detectors transported as individual components shall be transported as follows:
  - .1 detectors shall be packed in a sealed intermediate plastics liner with sufficient absorbent or adsorbent material to absorb or adsorb the entire gas contents;
  - .2 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; and
  - .3 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 .1 shall be transported as follows:
  - .1 the detectors shall be contained in a strong sealed outer casing;

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- .2 the casing shall contain sufficient absorbent or adsorbent material to absorb or adsorb the entire gas contents; and
- .3 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 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.

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

- 376 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.

For the purposes of this special provision, these may include, but are not limited to:

- Cells or batteries identified as being defective for safety reasons;
- Cells or batteries that have leaked or vented;
- Cells or batteries that cannot be diagnosed prior to transport; or
- Cells or batteries that have sustained physical or mechanical damage.

△ **Note:** In assessing a cell or battery as damaged or defective, an assessment or evaluation shall be performed based on safety criteria from the cell, battery or product manufacturer or by a technical expert with knowledge of the cell's or battery's safety features. An assessment or evaluation may include, but is not limited to, the following criteria:

- .1 acute hazard, such as gas, fire or electrolyte leaking;
- .2 the use or misuse of the cell or battery;
- .3 signs of physical damage, such as deformation to cell or battery casing, or colours on the casing;
- .4 external and internal short circuit protection, such as voltage or isolation measures;
- .5 the condition of the cell or battery safety features; or
- .6 damage to any internal safety components, such as the battery management system.

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.

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 identified as damaged or defective and 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 be packed and transported in accordance with packing instruction P911 of 4.1.4.1 or LP906 of 4.1.4.3, as applicable. Alternative packing and/or transport conditions may be authorized by the competent authority.

Packages shall be marked "DAMAGED/DEFECTIVE" in addition to the proper shipping name, as stated in 5.2.1.

The transport document shall include the following statement "Transport in accordance with special provision 376".

If applicable, a copy of the competent authority approval shall accompany the transport.

- 377 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.

These cells and batteries are not subject to the requirements of section 2.9.4.

Packages shall be marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING".

△ Identified damaged or defective batteries shall be transported in accordance with special provision 376.

The transport document shall include the following statement: "Transport in accordance with special provision 377".

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378 Radiation detectors containing this gas in non-refillable pressure receptacles not meeting the requirements of chapter 6.2 and packing instruction P200 of 4.1.4.1 may be transported under this entry provided:

- .1 The working pressure in each receptacle does not exceed 50 bar;
- .2 The receptacle capacity does not exceed 12 L;
- .3 Each receptacle has a minimum burst pressure of at least 3 times the working pressure when a relief device is fitted and at least 4 times the working pressure when no relief device is fitted;
- .4 Each receptacle is manufactured from material which will not fragment upon rupture;
- .5 Each detector is manufactured under a registered quality assurance programme;

**Note:** ISO 9001:2008 may be used for this purpose.

- .6 Detectors are transported in strong outer packagings. The complete package shall be capable of withstanding a 1.2 metre drop test without breakage of the detector or rupture of the outer packaging. Equipment that includes a detector shall be packed in a strong outer packaging unless the detector is afforded equivalent protection by the equipment in which it is contained; and
- .7 The transport document includes the following statement “Transport in accordance with special provision 378”.

Radiation detectors, including detectors in radiation detection systems, are not subject to any other requirements of this Code if the detectors meet the requirements in .1 to .6 above and the capacity of detector receptacles does not exceed 50 ml.

379 Anhydrous ammonia adsorbed on a solid or absorbed in a solid contained in ammonia dispensing systems or receptacles intended to form part of such systems are not subject to the other provisions of this Code if the following conditions are observed:

- .1 The adsorption or absorption presents the following properties:
  - .1 the pressure at a temperature of 20°C in the receptacle is less than 0.6 bar;
  - .2 the pressure at a temperature of 35°C in the receptacle is less than 1 bar;
  - .3 the pressure at a temperature of 85°C in the receptacle is less than 12 bar;
- .2 The adsorbent or absorbent material shall not have dangerous properties listed in classes 1 to 8;
- .3 The maximum contents of a receptacle shall be 10 kg of ammonia; and
- .4 Receptacles containing adsorbed or absorbed ammonia shall meet the following conditions:
  - △ .1 receptacles shall be made of a material compatible with ammonia as specified in ISO 11114-1:2012 + Amd 1:2017;
  - .2 receptacles and their means of closure shall be hermetically sealed and able to contain the generated ammonia;
  - .3 each receptacle shall be able to withstand the pressure generated at 85°C with a volumetric expansion no greater than 0.1%;
  - .4 each receptacle shall be fitted with a device that allows for gas evacuation once pressure exceeds 15 bar without violent rupture, explosion or projection; and
  - .5 each receptacle shall be able to withstand a pressure of 20 bar without leakage when the pressure relief device is deactivated.

When transported in an ammonia dispenser, the receptacles shall be connected to the dispenser in such a way that the assembly is guaranteed to have the same strength as a single receptacle.

The properties of mechanical strength mentioned in this special provision shall be tested using a prototype of a receptacle and/or dispenser filled to nominal capacity, by increasing the temperature until the specified pressures are reached.

The test results shall be documented, shall be traceable and shall be communicated to the relevant authorities upon request.

381 Large packagings conforming to the packing group III performance level used in accordance with packing instruction LP02 of 4.1.4.3, as prescribed in the IMDG Code (amendment 37-14), may be used until 31 December 2022.

382 Polymeric beads may be made from polystyrene, poly(methyl methacrylate) or other polymeric material. When it can be demonstrated that no flammable vapour, resulting in a flammable atmosphere, is evolved according to test U1 (Test method for substances liable to evolve flammable vapours) of part III, subsection 38.4.4 of the *Manual of Tests and Criteria*, polymeric beads, expandable, need not be classified under this UN number. This test should only be performed when declassification of a substance is considered.

383 Table tennis balls manufactured from celluloid are not subject to this Code where the net mass of each table tennis ball does not exceed 3.0 g and the total net mass of table tennis balls does not exceed 500 g per package.



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- 384 The label to be used is Model No. 9A, see 5.2.2.2.2. However, for placarding of cargo transport units, the placard shall correspond to Model No. 9.
- 386 When substances are stabilized by temperature control, the provisions of 7.3.7 apply. When chemical stabilization is employed, the person offering the packaging, IBC or tank for transport shall ensure that the level of stabilization is sufficient to prevent the substance in the packaging, IBC or tank from dangerous polymerization at a bulk mean temperature of 50°C, or, in the case of a portable tank, 45°C. Where chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of transport, temperature control is required. In making this determination factors to be taken into consideration include, but are not limited to, the capacity and geometry of the packaging, IBC or tank and the effect of any insulation present, the temperature of the substance when offered for transport, the duration of the journey and the ambient temperature conditions typically encountered in the journey (considering also the season of year), the effectiveness and other properties of the stabilizer employed, applicable operational controls imposed by regulation (e.g. requirements to protect from sources of heat, including other cargo transported at a temperature above ambient) and any other relevant factors.
- 387 Lithium batteries in conformity with 2.9.4.6 containing both primary lithium metal cells and rechargeable lithium ion cells shall be assigned to UN 3090 or 3091 as appropriate. When such batteries are transported in accordance with special provision 188, the total lithium content of all lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh.
- 388 UN 3166 entries apply to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.
- Vehicles powered by a fuel cell engine shall be assigned to the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, 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 assigned to 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 battery(ies) installed.
- 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.
- Entry UN 3171 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 cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with a motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheelchairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. This includes vehicles transported in a packaging. In this case some parts of the vehicle may be detached from its frame to fit into the packaging.
- △ 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 assigned to 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. Lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit shall be assigned to the entry UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries.
- Dangerous goods, such as batteries, airbags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator or passengers, shall be securely installed in the vehicle and are not otherwise subject to this Code.
- 389 This entry only applies to lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit. The lithium batteries shall meet the requirements of 2.9.4.1 to .7 and contain the necessary systems to prevent overcharge and overdischarge between the batteries.

The batteries shall be securely attached to the interior structure of the cargo transport unit (e.g. by means of placement in racks, cabinets, etc.) in such a manner as to prevent short circuits, accidental operation, and significant movement relative to the cargo transport unit under the shocks, loadings and vibrations normally incident to transport. Dangerous goods necessary for the safe and proper operation of the cargo transport unit (e.g. fire-extinguishing systems and air-conditioning systems), shall be properly secured to or installed in the cargo transport unit and are not otherwise subject to this Code. Dangerous goods not necessary for the safe and proper operation of the cargo transport unit shall not be transported within the cargo transport unit.

The batteries inside the cargo transport unit are not subject to marking or labelling requirements. The cargo transport unit shall display the UN number in accordance with 5.3.2.1.2 and be placarded on two opposing sides in accordance with 5.3.1.1.2.

- 390 When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply for the purposes of package marking and documentation:

- .1 the package shall be marked "UN 3091 Lithium metal batteries packed with equipment", or "UN 3481 Lithium ion batteries packed with equipment", as appropriate. If a package contains both lithium ion batteries and lithium metal batteries packed with and contained in equipment, the package shall be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered.
- .2 the transport document shall indicate "UN 3091 Lithium metal batteries packed with equipment" or "UN 3481 Lithium ion batteries packed with equipment", as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the transport document shall indicate both "UN 3091 Lithium metal batteries packed with equipment" and "UN 3481 Lithium ion batteries packed with equipment"

- 391 Articles containing dangerous goods of class 2.3, or class 4.2, or class 4.3, or class 5.1, or class 5.2 or class 6.1 for substances of inhalation toxicity requiring packing group I and articles containing more than one of the hazards listed in 2.0.3.4.2 to 2.0.3.4.4 shall be transported under conditions approved by the competent authority.

- 392 For the transport of fuel gas containment systems designed and approved to be fitted in motor vehicles containing this gas, the provisions of subsection 4.1.4.1 and chapter 6.2 of this Code need not be applied when transported for disposal, recycling, repair, inspection, maintenance or from where they are manufactured to a vehicle assembly plant, provided the following conditions are met:

- .1 The fuel gas containment systems shall meet the requirements of the standards or regulations for fuel tanks for vehicles, as applicable. Examples of applicable standards and regulations are:

LPG tanks	
ECE Regulation No. 67 Revision 2	Uniform provisions concerning: I. Approval of specific equipment of vehicles of category M and N using liquefied petroleum gases in their propulsion system; II. Approval of vehicles of category M and N fitted with specific equipment for the use of liquefied petroleum gases in their propulsion system with regard to the installation of such equipment
ECE Regulation No. 115	Uniform provisions concerning the approval of: I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system
CNG tanks	
ECE Regulation No. 110	Uniform provisions concerning the approval of: I. Specific components of motor vehicles using compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system; II. Vehicles with regard to the installation of specific components of an approved type for the use of compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system

ECE Regulation No. 115	(Uniform provisions concerning the approval of: I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system)
ISO 11439:2013	Gas cylinders – High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles
ISO 15500-Series	ISO 15500: Road vehicles – Compressed natural gas (CNG) fuel system components – several parts as applicable
ANSI NGV 2	Compressed natural gas vehicle fuel containers
CSA B51 Part 2: 2014	Boiler, pressure vessel, and pressure piping code Part 2 Requirements for high-pressure cylinders for on board storage of fuels for automotive vehicles
<b>Hydrogen pressure tanks</b>	
Global Technical Regulation (GTR) No. 13	Global technical regulation on hydrogen and fuel cell vehicles (ECE/TRANS/180/Add.13)
ISO/TS 15869:2009	Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks
Regulation (EC) No.79/2009	Regulation (EC) No. 79/2009 of the European Parliament and of the Council of 14 January 2009 on type approval of hydrogen-powered motor vehicles, and amending Directive 2007/46/EC
Regulation (EU) No. 406/2010	Commission Regulation (EU) No. 406/2010 of 26 April 2010 implementing Regulation (EC) No. 79/2009 of the European Parliament and of the Council on type-approval of hydrogen-powered motor vehicles.
ECE Regulation No. 134	Uniform provisions concerning the approval of motor vehicles and their components with regards to the safety-related performance of hydrogen-fuelled vehicles (HFCV)
CSA B51 Part 2: 2014	Boiler, pressure vessel, and pressure piping code Part 2 Requirements for high-pressure cylinders for on-board storage of fuels for automotive vehicles

Gas tanks designed and constructed in accordance with previous versions of relevant standards or regulations for gas tanks for motor vehicles, which were applicable at the time of the certification of the vehicles for which the gas tanks were designed and constructed may continue to be transported;

- .2 The fuel gas containment systems shall be leakproof and shall not exhibit any signs of external damage which may affect their safety;

**Note 1:** Criteria may be found in standard ISO 11623:2015 *Gas cylinders – Composite construction – Periodic inspection and testing* (or ISO 19078:2013 *Gas cylinders – Inspection of the cylinder installation, and requalification of high pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles*).

**Note 2:** If the fuel gas containment systems are not leakproof or are overfilled or if they exhibit damage that could affect their safety (e.g. in case of a safety-related recall), they shall only be carried in salvage pressure receptacles in conformity with this Code.

- .3 If a fuel gas containment system is equipped with two valves or more integrated in line, the two valves shall be closed as to be gastight under normal conditions of transport. If only one valve exists or only one valve works, all openings with the exception of the opening of the pressure relief device shall be closed as to be gastight under normal conditions of transport;
- .4 Fuel gas containment systems shall be transported in such a way as to prevent obstruction of the pressure relief device or any damage to the valves and any other pressurised part of the fuel gas containment systems and unintentional release of the gas under normal conditions of

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transport. The fuel gas containment system shall be secured in order to prevent slipping, rolling or vertical movement;

- .5 Valves shall be protected by one of the methods described in 4.1.6.1.8.1 to 4.1.6.1.8.5;
- .6 Except for the case of fuel gas containment systems removed for disposal, recycling, repair, inspection or maintenance, they shall be filled with not more than 20% of their nominal filling ratio or nominal working pressure, as applicable;
- .7 Notwithstanding the provisions of chapter 5.2, when fuel gas containment systems are consigned in a handling device, markings and labels may be affixed to the handling device; and
- .8 Notwithstanding the provisions of 5.4.1.5, the information on the total quantity of dangerous goods may be replaced by the following information:
  - .1 the number of fuel gas containment systems; and
  - .2 in the case of liquefied gases the total net mass (kg) of gas of each fuel gas containment system and, in the case of compressed gases, the total water capacity (l) of each fuel gas containment system followed by the nominal working pressure.

Examples for information in the transport document:

Example 1: “UN 1971 natural gas, compressed, 2.1, 1 fuel gas containment system of 50 l in total, 200 bar”.

Example 2: “UN 1965 hydrocarbon gas mixture, liquefied, n.o.s., 2.1, 3 fuel gas containment systems, each of 15 kg net mass of gas”.

- 393 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the *Manual of Tests and Criteria* Appendix 10. Tests of type 3 (c) need not be applied.
- 394 The nitrocellulose shall meet the criteria of the Bergmann-Junk test or methyl violet paper test in the *Manual of Tests and Criteria* Appendix 10.
- 395 This entry shall only be used for solid medical waste of category A transported for disposal.
- 900 The transport of the following substances is prohibited:
  - 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

See also special provisions 349, 350, 351, 352 and 353.
- 903 HYPOCHLORITE MIXTURES with 10% or less available CHLORINE are not subject to the provisions of this Code.
- 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 The consignment shall be accompanied by a certificate from a recognized authority stating:
  - 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, see special provision 308 (for UN 2216 only);
  - packing, number of bags and total mass of the consignment;
  - temperature of fish meal at the time of despatch from the factory;
  - date of production.

## Part 3 – Dangerous Goods List, special provisions and exceptions

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- No weathering/curing is required prior to loading. Fish meal under UN 1374 shall have been weathered for not less than 28 days before shipment.
- When fish meal is packed into containers, the containers shall be packed in such a way that the free air space has been restricted to the minimum.
- 912 This entry also covers solutions in water with concentrations above 70%.
- 916 The provisions of this Code do not apply to this substance when:
- 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.
- 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 The provisions of this Code do not apply to:
- non-activated carbon blacks of mineral origin;
  - a consignment of carbon if it passes the tests for self-heating substances as reflected in the *Manual of Tests and Criteria* (see 33.4.3.3), 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 The provisions of this Code shall not apply to:
- fish meal when acidified and wetted with more than 40% water, by mass, irrespective of other factors;
  - consignments of fish meal 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
  - fish meal 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 If satisfied, as a result of tests, that such relaxation is justified, the competent authority may permit:
- 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.
- Certificates from the shipper shall state oil content and moisture content and shall accompany the shipment.
- 930 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.
- 931 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.
- 932 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.
- 934 Requires the percentage range of calcium carbide impurity to be shown on the shipping documents.



## Chapter 3.3 – Special provisions applicable to certain substances, materials or articles

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- 935 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.
- 937 The solid hydrated form of this substance is not subject to the provisions of this Code.
- 939 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.
- 942 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.
- 943 Water-activated articles shall bear a subsidiary hazard label of class 4.3.
- 946 Requires certification from the shipper that the substance is not of class 4.2.
- 948 These substances may be transported in bulk in cargo transport units only if their melting point is 75°C or above.
- ⊗
- 952 UN 1942 may be transported in bulk container if approved by the competent authority.
- 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.
- 958 This entry also 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 or waste gas cartridges 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 hazard(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 Vehicles are not subject to the provisions of this Code if any of the following conditions are met:
- .1 vehicles are stowed on the vehicle, special category and ro-ro spaces or on the weather deck of a ro-ro 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.  
In addition, for vehicles powered solely by lithium batteries and hybrid electric vehicles powered by both an internal combustion engine and lithium metal or ion batteries, the lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use. Where a lithium battery installed in a vehicle is damaged or defective, the battery shall be removed.
  - .2 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;
  - .3 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. Vehicles are considered to be empty of flammable liquid fuel when the fuel tank has been drained and the vehicles 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;
  - .4 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;
  - .5 vehicles solely powered by a wet or dry electric storage battery or a sodium battery, and the battery is protected from short circuit.

## Part 3 – Dangerous Goods List, special provisions and exceptions

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- 962 Vehicles, not meeting the conditions of special provision 961 shall be assigned to class 9 and shall meet the following requirements:
- .1 vehicles 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 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, 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 batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use. Where a lithium battery installed in a vehicle is damaged or defective, the battery shall be removed and transported according to SP 376, unless otherwise approved by the competent Authority.
- The provisions of this Code relevant to marking, labelling, placarding and marine pollutants shall not apply.
- 963 Nickel-metal hydride cells or batteries packed with or contained in equipment and nickel-metal hydride button cells 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 columns 16a and 16b 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 prills or granules form and if it passes the test for oxidizing solid substances as reflected in the *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
- .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.
  - .2 The provisions of .1 do not apply if:
    - .1 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
    - .2 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.
  - .3 Where the substance is loaded in closed cargo transport units, the provisions of 7.3.6.1 shall be met.
  - .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:
    - .1 the cargo transport unit has been completely ventilated to remove any hazardous concentration of vapour or gas;
    - .2 the immediate vicinity of the cargo transport unit is clear of any source of ignition; and
    - .3 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.

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- 968 This entry shall not be used for sea transport. Discarded packaging shall meet the requirements of 4.1.1.11.
- 969 Substances classified in accordance to 2.9.3 are subject to the provisions for marine pollutants. Substances which are transported under UN 3077 and UN 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.
- 971 Battery powered equipment may only be transported provided that the battery shows no sign of leakage and is protected from short-circuit. In this case, no other provisions of this Code apply.
- 972 Lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the engine or machinery. Where a lithium battery installed in an engine or machinery is damaged or defective, the battery shall be removed.
- 973 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.
- 974 These substances may be transported in IMO type 9 tanks.
- 975 MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid shall only be transported on short international voyages. Long international voyages are authorized only with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.
- 976 The transport of this substance shall be prohibited except with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.

## Chapter 3.4

### *Dangerous goods packed in limited quantities*

#### 3.4.1 General

- 3.4.1.1 This chapter provides the provisions applicable to the transport of dangerous goods of certain classes packed in limited quantities. The applicable quantity limit for the inner packaging or article is specified for each substance in column 7a of the Dangerous Goods List of chapter 3.2. In addition, the quantity “0” has been indicated in this column for each entry not permitted to be transported in accordance with this chapter.
- 3.4.1.2 Limited quantities of dangerous goods packed in such limited quantities, meeting the provisions of this chapter, are not subject to any other provisions of this Code except the relevant provisions of:
- .1 Part 1, chapters 1.1, 1.2 and 1.3;
  - .2 Part 2;
  - .3 Part 3, chapters 3.1, 3.2, 3.3;
  - .4 Part 4, 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8;
  - .5 Part 5, 5.1.1 except 5.1.1.6, 5.1.2.3, 5.2.1.7, 5.2.1.9, 5.3.2.4, and chapter 5.4;
  - .6 Part 6, construction requirements of 6.1.4, 6.2.1.2 and 6.2.4;
  - .7 Part 7, 7.1.3.2, 7.6.3.1 and 7.3 except 7.3.3.15 and 7.3.4.1.

#### 3.4.2 Packing

- 3.4.2.1 Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. Intermediate packagings may be used. In addition, for articles of division 1.4, compatibility group S, the provisions of section 4.1.5 shall be fully complied with. The use of inner packagings is not necessary for the transport of articles such as aerosols or “receptacles, small, containing gas”. The total gross mass of the package shall not exceed 30 kg.
- 3.4.2.2 Except for articles of division 1.4, compatibility group S, shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods transported in accordance with this chapter. Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 20 kg.
- 3.4.2.3 Liquid goods of class 8, packing group II in glass, porcelain or stoneware inner packagings shall be enclosed in a compatible and rigid intermediate packaging.

#### 3.4.3 Stowage

Dangerous goods packed in limited quantity are allocated stowage category A as defined in 7.1.3.2. The other stowage provisions indicated in column 16a of the Dangerous Goods List are not applicable.

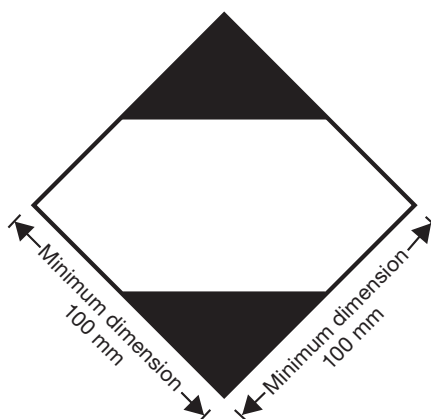
#### 3.4.4 Segregation

- 3.4.4.1 Different dangerous substances in limited quantities may be packed in the same outer packaging, provided:
- .1 the substances comply with the provisions of 7.2.6.1; and
  - .2 the segregation provisions of chapter 7.2, including the segregation provisions in column 16b of the Dangerous Goods List, are taken into account. However, notwithstanding the individual provisions specified in the Dangerous Goods List, substances in packing group III within the same class may be packed together subject to compliance with 3.4.4.1.1 of the IMDG Code. The following statement shall be included in the transport document: “Transport in accordance with 3.4.4.1.2 of the IMDG Code” (see 5.4.1.5.2.2).

- 3.4.4.2 The segregation provisions of chapter 7.2 to 7.7 including the segregation provisions in column 16b of the Dangerous Goods List are not applicable for packagings containing dangerous goods in limited quantities or in relation to other dangerous goods. However, articles of division 1.4, compatibility group S shall not be stowed in the same compartment or hold, or cargo transport unit with dangerous goods of class 1 of compatibility groups A and L.

### 3.4.5 Marking and placarding

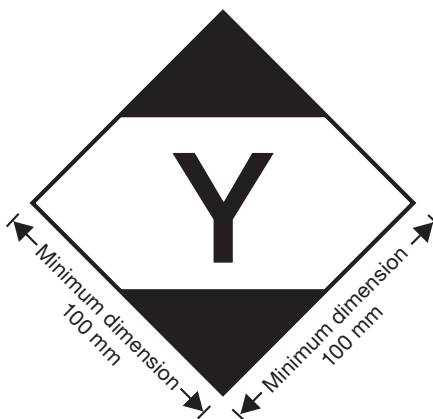
- 3.4.5.1 Except for air transport, packages containing dangerous goods in limited quantities shall bear the mark shown below:



Mark for packages containing limited quantities

The mark shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness. The mark shall be in the form of a square set at an angle of 45° (diamond-shaped). The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be 100 mm × 100 mm and the minimum width of the line forming the diamond shall be 2 mm. Where dimensions are not specified, all features shall be in approximate proportion to those shown. If the size of the package so requires, the minimum outer dimensions shown above may be reduced to be not less than 50 mm × 50 mm provided the mark remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm.

- 3.4.5.2 Packages containing dangerous goods packed in conformity with the provisions of part 3, chapter 4 of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air* may bear the mark shown below to certify conformity with these provisions:



Mark for packages containing limited quantities conforming to part 3, chapter 4 of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air*

The mark shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness. The mark shall be in the form of a square set at an angle of 45° (diamond-shaped). The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be 100 mm × 100 mm and the minimum width of the line forming the diamond shall be 2 mm. The symbol “Y” shall be placed in the centre of the mark and shall be clearly visible. Where dimensions are not specified, all features shall be in approximate proportion to those shown. If the size of the package so requires, the minimum outer dimensions shown



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above may be reduced to be not less than 50 mm × 50 mm provided the mark remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm. The symbol “Y” shall remain in approximate proportion to that shown above.

**3.4.5.3 Multimodal recognition of marks**

**3.4.5.3.1** Packages containing dangerous goods bearing the mark shown in 3.4.5.2 with or without the additional labels and marks for air transport shall be deemed to meet the provisions of section 3.4.2 and need not bear the mark shown in 3.4.5.1.

**3.4.5.3.2** Packages containing dangerous goods in limited quantities bearing the mark shown in 3.4.5.1 and conforming with the provisions of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, including all necessary marks and labels specified in parts 5 and 6, shall be deemed to meet the provisions of section 3.4.1 as appropriate and of section 3.4.2.

**3.4.5.4** When packages containing dangerous goods packed in limited quantities are placed in an overpack or in a unit load, the overpack or the unit load shall be marked with the mark required by this chapter unless the marks representative of all dangerous goods in the overpack or the unit load are visible. In addition, an overpack shall be marked with the word “OVERPACK” unless marks representative of all dangerous goods, as required by this chapter, in the overpack are visible. The lettering of the “OVERPACK” mark shall be at least 12 mm high. The other provisions of 5.1.2.1 apply only if other dangerous goods which are not packed in limited quantities are contained in the overpack or in a unit load and only in relation to these other dangerous goods.

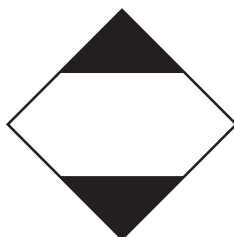
**3.4.5.5 Placarding and marking of cargo transport units**

**3.4.5.5.1** Cargo transport units containing dangerous goods packed in limited quantities with no other dangerous goods shall not be placarded nor marked according to 5.3.2.0 and 5.3.2.1. However, they shall be suitably marked on the exterior with the mark in 3.4.5.5.4.

**3.4.5.5.2** Cargo transport units containing dangerous goods and dangerous goods packed in limited quantities shall be placarded and marked according to the provisions applicable to the dangerous goods which are not packed in limited quantities. However, if no placard or mark is required for the dangerous goods not packed in limited quantities, the cargo transport units shall be marked with the mark in 3.4.5.5.4.

**3.4.5.5.3** [Reserved]

**3.4.5.5.4** When required in 3.4.5.5.1 or 3.4.5.5.2, the following mark shall be affixed on cargo transport units:



The mark shall be readily visible, legible and be such that this information will still be identifiable on cargo transport units surviving at least three months' immersion in the sea. In considering suitable marking methods, account shall be taken of ease with which the surface of the cargo transport unit can be marked. The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be of 250 mm × 250 mm in locations indicated in 5.3.1.1.4.1.

**3.4.6 Documentation**

**3.4.6.1** In addition to the provisions for documentation specified in chapter 5.4, the words “limited quantity” or “LTD QTY” shall be included on the dangerous goods transport document together with the description of the shipment.

## Chapter 3.5

### *Dangerous goods packed in excepted quantities*

#### 3.5.1 Excepted quantities

3.5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this chapter, are not subject to any other provisions of this Code except for:

- .1 The training provisions in chapter 1.3;
- .2 The classification procedures and packing group criteria in Part 2, Classification;
- .3 The packaging provisions of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.4.1 and 4.1.1.6 in Part 4; and
- .4 The provisions for documentation specified in chapter 5.4.

**Note:** In the case of radioactive material, the provisions for radioactive material in excepted packages in 1.5.1.5 apply.

3.5.1.2 Dangerous goods which may be carried as excepted quantities in accordance with the provisions of this chapter are shown in column 7b of the Dangerous Goods List by means of an alphanumeric code as follows:

Code	Maximum net quantity per inner packaging (in grams for solids and mL for liquids and gases)	Maximum net quantity per outer packaging (in grams for solids and mL for liquids and gases, or sum of grams and mL in the case of mixed packaging)
E0	Not permitted as excepted quantity	
E1	30	1,000
E2	30	500
E3	30	300
E4	1	500
E5	1	300

For gases, the volume indicated for inner packagings refers to the water capacity of the inner receptacle and the volume indicated for outer packagings refers to the combined water capacity of all inner packagings within a single outer packaging.

3.5.1.3 Where dangerous goods in excepted quantities for which different codes are assigned are packaged together, the total quantity per outer packaging shall be limited to that corresponding to the most restrictive code.

3.5.1.4 Excepted quantities of dangerous goods assigned to codes E1, E2, E4 and E5 are not subject to the provisions of this Code provided that:

- .1 The maximum net quantity of material per inner packaging is limited to 1 mL for liquids and gases and 1 g for solids;
- .2 The provisions of 3.5.2 are met, except that an intermediate packaging is not required if the inner packagings are securely packed in an outer packaging with cushioning material in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their contents; and for liquid dangerous goods, the outer packaging contains sufficient absorbent material to absorb the entire contents of the inner packagings;
- .3 The provisions of 3.5.3 are complied with; and
- .4 The maximum net quantity of dangerous goods per outer packaging does not exceed 100 g for solids or 100 mL for liquids and gases.

### 3.5.2 Packagings

3.5.2.1 Packagings used for the transport of dangerous goods in excepted quantities shall be in compliance with the following:

- .1 There shall be an inner packaging and each inner packaging shall be constructed of plastic (when used for liquid dangerous goods it shall have a thickness of not less than 0.2 mm), or of glass, porcelain, stoneware, earthenware or metal (see also 4.1.1.2) and the closure of each inner packaging shall be held securely in place with wire, tape or other positive means; any receptacle having a neck with moulded screw threads shall have a leakproof threaded-type cap. The closure shall be resistant to the contents;
- .2 Each inner packaging shall be securely packed in an intermediate packaging with cushioning material in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents. For liquid dangerous goods, the intermediate or outer packaging shall contain sufficient absorbent material to absorb the entire contents of the inner packagings. When placed in the intermediate packaging, the absorbent material may be the cushioning material. Dangerous goods shall not react dangerously with cushioning, absorbent material and packaging material or reduce the integrity or function of the materials. Regardless of its orientation, the package shall completely contain the contents in case of breakage or leakage;
- .3 The intermediate packaging shall be securely packed in a strong, rigid outer packaging (wooden, fibre-board or other equally strong material);
- .4 Each package type shall be in compliance with the provisions in 3.5.3;
- .5 Each package shall be of such a size that there is adequate space to apply all necessary marks; and
- .6 Overpacks may be used and may also contain packages of dangerous goods or goods not subject to the provisions of this Code.

### 3.5.3 Tests for packages

3.5.3.1 The complete package as prepared for transport, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, shall be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

- .1 Drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:
  - (i) Where the sample is in the shape of a box, it shall be dropped in each of the following orientations:
    - flat on the base;
    - flat on the top;
    - flat on the longest side;
    - flat on the shortest side;
    - on a corner
  - (ii) Where the sample is in the shape of a drum, it shall be dropped in each of the following orientations:
    - diagonally on the top chime, with the centre of gravity directly above the point of impact;
    - diagonally on the base chime;
    - flat on the side.

**Note:** Each of the above drops may be performed on different but identical packages.

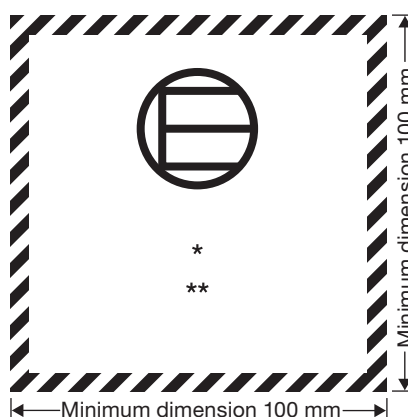
- .2 A force applied to the top surface for a duration of 24 h, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the sample).

3.5.3.2 For the purposes of testing, the substances to be transported in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it shall have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity shall be similar to those of the substance to be transported.

### 3.5.4 Marking of packages

3.5.4.1 Packages containing excepted quantities of dangerous goods prepared in accordance with this chapter shall be durably and legibly marked with the mark shown below. The primary hazard class of each of the dangerous goods contained in the package shall be shown in the mark. Where the name of the consignor or consignee is not shown elsewhere on the package, this information shall be included within the mark.

## 3.5.4.2



Excepted quantities mark

\* The class or, when assigned, the division number(s) shall be shown in this location.

\*\* The name of the consignor or of the consignee shall be shown in this location if not shown elsewhere on the package.

The mark shall be in the form of a square. The hatching and symbol shall be of the same colour, black or red, on white or suitable contrasting background. The minimum dimensions shall be 100 mm × 100 mm. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

## 3.5.4.3

When packages containing dangerous goods packed in excepted quantities are placed in an overpack or in a unit load, the overpack or the unit load shall be marked with the mark required by this chapter unless the marks representative of all dangerous goods in the overpack or the unit load are visible. In addition, an overpack shall be marked with the word “OVERPACK” unless marks representative of all dangerous goods, as required by this chapter, in the overpack are visible. The lettering of the “OVERPACK” mark shall be at least 12 mm high. The other provisions of 5.1.2.1 apply only if other dangerous goods which are not packed in excepted quantities are contained in the overpack or in a unit load and only in relation to these other dangerous goods.

## 3.5.5 Maximum number of packages in any cargo transport unit

## 3.5.5.1

The number of packages containing dangerous goods packed in excepted quantities in any cargo transport unit shall not exceed 1,000.

## 3.5.6 Documentation

## △ 3.5.6.1

In addition to the provisions for documentation specified in chapter 5.4, the words “dangerous goods in excepted quantities” and the number of packages shall be included on the dangerous goods transport document together with the description of the shipment.

## 3.5.7 Stowage

## 3.5.7.1

Dangerous goods packed in excepted quantity are allocated stowage category A as defined in 7.1.3.2. The other stowage provisions indicated in column 16a of the Dangerous Goods List are not applicable.

## 3.5.8 Segregation

## 3.5.8.1

The segregation provisions of chapters 7.2 to 7.7, including the segregation provisions in column 16b of the Dangerous Goods List, are not applicable for packagings containing dangerous goods packed in excepted quantities or in relation to other dangerous goods.

## 3.5.8.2

The segregation provisions of chapters 7.2 to 7.7, including the segregation provisions in column 16b of the Dangerous Goods List, are not applicable for different dangerous goods in excepted quantities in the same outer packaging provided that they do not react dangerously with each other (see 4.1.1.6).





# APPENDICES



## Appendix A

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### *List of generic and N.O.S. proper shipping names*

Substances or articles not mentioned specifically by name in the Dangerous Goods List in chapter 3.2 shall be classified in accordance with 3.1.1.2. Thus the name in the Dangerous Goods List which most appropriately describes the substance or article shall be used as the proper shipping name. The main generic entries and all the N.O.S. entries given in the Dangerous Goods List are listed below. This proper shipping name shall be supplemented by the technical name when special provision 274 or 318 has been assigned to the entry in column 6 of the Dangerous Goods List. For marine pollutants, see also 3.1.2.9.

In this list, general and N.O.S. names are grouped according to their hazard class or division. Within each hazard class or division, the names have been placed into three groups as follows:

- specific entries covering a group of substances or articles of a particular chemical or technical nature;
- pesticide entries, for class 3 and class 6.1;
- general entries covering a group of substances or articles having one or more general dangerous properties.

THE MOST SPECIFIC APPLICABLE NAME SHALL ALWAYS BE USED.

# Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
1		0190	<b>CLASS 1</b> SAMPLES, EXPLOSIVE, other than initiating explosive
1.1A 1.1B 1.1C 1.1C 1.1C 1.1D 1.1D 1.1E 1.1F 1.1G 1.1L 1.1L		0473 0461 0462 0474 0497 0498 0463 0475 0464 0465 0476 0354 0357	<b>Division 1.1</b> SUBSTANCES, EXPLOSIVE, N.O.S. COMPONENTS, EXPLOSIVE TRAIN, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, LIQUID PROPELLANT, SOLID ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S.
1.2B 1.2C 1.2D 1.2E 1.2F 1.2K 1.2L  1.2L 1.2L	      6.1 4.3	0382 0466 0467 0468 0469 0020 0248  0355 0358	<b>Division 1.2</b> COMPONENTS, EXPLOSIVE TRAIN, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. AMMUNITION, TOXIC with burster, expelling charge or propelling charge CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S.
1.3C 1.3C 1.3C 1.3C 1.3C 1.3G 1.3K 1.3L  1.3L 1.3L	      6.1 4.3	0132 0470 0477 0495 0499 0478 0021 0249  0356 0359	<b>Division 1.3</b> DEFLAGRATING METAL SALTS OF AROMATIC NITRO-DERIVATIVES, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, LIQUID PROPELLANT, SOLID SUBSTANCES, EXPLOSIVE, N.O.S. AMMUNITION, TOXIC with burster, expelling charge or propelling charge CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S.
1.4B 1.4B 1.4C 1.4C 1.4C 1.4D 1.4D 1.4E 1.4F 1.4G 1.4G 1.4S 1.4S 1.4S		0350 0383 0351 0479 0501 0352 0480 0471 0472 0353 0485 0349 0384 0481	<b>Division 1.4</b> ARTICLES, EXPLOSIVE, N.O.S. COMPONENTS, EXPLOSIVE TRAIN, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, SOLID ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. COMPONENTS, EXPLOSIVE TRAIN, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S.
1.5D		0482	<b>Division 1.5</b> SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.
1.6N		0486	<b>Division 1.6</b> ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)

## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
<b>CLASS 2</b>			
<b>Class 2.1</b>			
<b>Specific entries</b>			
2.1		1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.
2.1		1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.
2.1		3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.
<b>General entries</b>			
2.1		1954	COMPRESSED GAS, FLAMMABLE, N.O.S.
2.1		3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.
2.1		3167	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid
2.1		3312	GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.
2.1		3501	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.
2.1		3510	ADSORBED GAS, FLAMMABLE, N.O.S.
2.1	See 2.0.6.6	3537	ARTICLES CONTAINING FLAMMABLE GAS, N.O.S.
2.1	6.1	3504	CHEMICAL UNDER PRESSURE, FLAMMABLE, TOXIC, N.O.S.
2.1	8	3505	CHEMICAL UNDER PRESSURE, FLAMMABLE, CORROSIVE, N.O.S.
<b>Class 2.2</b>			
<b>Specific entries</b>			
2.2		1078	REFRIGERANT GAS, N.O.S.
2.2		1968	INSECTICIDE GAS, N.O.S.
<b>General entries</b>			
2.2		1956	COMPRESSED GAS, N.O.S.
2.2		3163	LIQUEFIED GAS, N.O.S.
2.2		3158	GAS, REFRIGERATED LIQUID, N.O.S.
2.2		3500	CHEMICAL UNDER PRESSURE, N.O.S.
2.2		3511	ADSORBED GAS, N.O.S.
2.2	See 2.0.6.6	3538	ARTICLES CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S.
2.2	5.1	3156	COMPRESSED GAS, OXIDIZING, N.O.S.
2.2	5.1	3157	LIQUEFIED GAS, OXIDIZING, N.O.S.
2.2	5.1	3311	GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.
2.2	5.1	3513	ADSORBED GAS, OXIDIZING, N.O.S.
2.2	6.1	3502	CHEMICAL UNDER PRESSURE, TOXIC, N.O.S.
2.2	8	3503	CHEMICAL UNDER PRESSURE, CORROSIVE, N.O.S.
<b>Class 2.3</b>			
<b>Specific entries</b>			
2.3		1967	INSECTICIDE GAS, TOXIC, N.O.S.
2.3	2.1	3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.
<b>General entries</b>			
2.3		1955	COMPRESSED GAS, TOXIC, N.O.S.
2.3		3162	LIQUEFIED GAS, TOXIC, N.O.S.
2.3		3169	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid
2.3		3512	ADSORBED GAS, TOXIC, N.O.S.
2.3	See 2.0.6.6	3539	ARTICLES CONTAINING TOXIC GAS, N.O.S.
2.3	2.1	1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.
2.3	2.1	3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.
2.3	2.1	3168	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid
2.3	2.1	3514	ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S.
2.3	2.1 + 8	3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.
2.3	2.1 + 8	3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.
2.3	2.1 + 8	3517	ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.
2.3	5.1	3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.
2.3	5.1	3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.
2.3	5.1	3515	ADSORBED GAS, TOXIC, OXIDIZING, N.O.S.
2.3	5.1 + 8	3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.



Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			CLASS 2 (continued)
			Class 2.3 (continued)
2.3	5.1 + 8	3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.
2.3	5.1 + 8	3518	ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.
2.3	8	3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.
2.3	8	3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.
2.3	8	3516	ADSORBED GAS, TOXIC, CORROSIVE, N.O.S.

## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
<b>CLASS 3</b>			
<b>Specific entries</b>			
3		1224	KETONES, LIQUID, N.O.S.
3		1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.
3		1987	ALCOHOLS, N.O.S.
3		1989	ALDEHYDES, N.O.S.
3		2319	TERPENE HYDROCARBONS, N.O.S.
3		3271	ETHERS, N.O.S.
3		3272	ESTERS, N.O.S.
3		3295	HYDROCARBONS, LIQUID, N.O.S.
3		3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.
3		3343	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass
3		3357	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass
3		3379	DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.
3	6.1	1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.
3	6.1	1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
3	6.1	1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.
3	6.1	2478	ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.
3	6.1	3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.
3	6.1	3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.
3	8	2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.
3	8	2985	CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.
3	8	3274	ALCOHOLATES SOLUTION, N.O.S. in alcohol
<b>Pesticides</b>			
3	6.1	2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S. flashpoint < 23°C
3	6.1	3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
3	6.1	3350	PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint < 23°C
<b>General entries</b>			
3		1993	FLAMMABLE LIQUID, N.O.S.
3		3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flashpoint above 60°C, at or above its flashpoint
3	See 2.0.6.6	3540	ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S.
3	6.1	1992	FLAMMABLE LIQUID, TOXIC, N.O.S.
3	6.1 + 8	3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
3	8	2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.

## Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			<b>CLASS 4</b>
			<b>Class 4.1</b>
			<b>Specific entries</b>
4.1		1353	FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.
4.1		3089	METAL POWDER, FLAMMABLE, N.O.S.
4.1		3182	METAL HYDRIDES, FLAMMABLE, N.O.S.
4.1		3221	SELF-REACTIVE LIQUID TYPE B
4.1		3222	SELF-REACTIVE SOLID TYPE B
4.1		3223	SELF-REACTIVE LIQUID TYPE C
4.1		3224	SELF-REACTIVE SOLID TYPE C
4.1		3225	SELF-REACTIVE LIQUID TYPE D
4.1		3226	SELF-REACTIVE SOLID TYPE D
4.1		3227	SELF-REACTIVE LIQUID TYPE E
4.1		3228	SELF-REACTIVE SOLID TYPE E
4.1		3229	SELF-REACTIVE LIQUID TYPE F
4.1		3230	SELF-REACTIVE SOLID TYPE F
4.1		3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED
4.1		3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED
4.1		3233	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED
4.1		3234	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED
4.1		3235	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED
4.1		3236	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED
4.1		3237	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED
4.1		3238	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED
4.1		3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED
4.1		3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED
4.1		3319	NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass
4.1		3344	PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass
4.1		3380	DESENSITIZED EXPLOSIVE, SOLID, N.O.S.
4.1		3531	POLYMERIZING SUBSTANCE, SOLID, STABILIZED, N.O.S.
4.1		3532	POLYMERIZING SUBSTANCE, LIQUID, STABILIZED, N.O.S.
4.1		3533	POLYMERIZING SUBSTANCE, SOLID, TEMPERATURE CONTROLLED, N.O.S.
4.1		3534	POLYMERIZING SUBSTANCE, LIQUID, TEMPERATURE CONTROLLED, N.O.S.
			<b>General entries</b>
4.1		1325	FLAMMABLE SOLID, ORGANIC, N.O.S.
4.1		3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.
4.1		3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.
4.1		3178	FLAMMABLE SOLID, INORGANIC, N.O.S.
4.1		3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.
4.1	See 2.0.6.6	3541	ARTICLES CONTAINING FLAMMABLE SOLID, N.O.S.
4.1	5.1	3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.
4.1	6.1	2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.
4.1	6.1	3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.
4.1	8	2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.
4.1	8	3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.
			<b>Class 4.2</b>
			<b>Specific entries</b>
4.2		1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil
4.2		1378	METAL CATALYST, WETTED with a visible excess of liquid
4.2		1383	PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.
4.2		2006	PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.
4.2		2881	METAL CATALYST, DRY
4.2		3189	METAL POWDER, SELF-HEATING, N.O.S.

## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			<b>CLASS 4 (continued)</b>
			<b>Class 4.2 (continued)</b>
			<b>Specific entries (continued)</b>
4.2		3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
4.2		3313	ORGANIC PIGMENTS, SELF-HEATING
4.2		3342	XANTHATES
4.2		3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC
4.2		3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC
4.2		3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING
4.2	4.3	3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE
4.2	4.3	3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
4.2	8	3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.
			<b>General entries</b>
4.2		2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.
4.2		2846	PYROPHORIC SOLID, ORGANIC, N.O.S.
4.2		3088	SELF-HEATING SOLID, ORGANIC, N.O.S.
4.2		3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.
4.2		3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.
4.2		3190	SELF-HEATING SOLID, INORGANIC, N.O.S.
4.2		3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.
4.2		3200	PYROPHORIC SOLID, INORGANIC, N.O.S.
4.2	See 2.0.6.6	3542	ARTICLES CONTAINING A SUBSTANCE LIABLE TO SPONTANEOUS COMBUSTION, N.O.S.
4.2	5.1	3127	SELF-HEATING SOLID, OXIDIZING, N.O.S.
4.2	6.1	3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.
4.2	6.1	3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.
4.2	6.1	3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.
4.2	6.1	3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.
4.2	8	3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.
4.2	8	3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.
4.2	8	3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.
4.2	8	3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.
			<b>Class 4.3</b>
			<b>Specific entries</b>
4.3		1389	ALKALI METAL AMALGAM, LIQUID
4.3		1390	ALKALI METAL AMIDES
4.3		1391	ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION
4.3		1392	ALKALINE EARTH METAL AMALGAM, LIQUID
4.3		1393	ALKALINE EARTH METAL ALLOY, N.O.S.
4.3		1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.
4.3		1421	ALKALI METAL ALLOY, LIQUID, N.O.S.
4.3		3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.
4.3		3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE
4.3		3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE
4.3		3401	ALKALI METAL AMALGAM, SOLID
4.3		3402	ALKALINE EARTH METAL AMALGAM, SOLID
4.3	3	3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE
4.3	3	3482	ALKALI METAL DISPERSION, FLAMMABLE or ALKALINE EARTH METAL DISPERSION, FLAMMABLE
4.3	3 + 8	2988	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.
4.3	4.1	3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE
4.3	4.2	3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.
4.3	4.2	3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING
			<b>General entries</b>
4.3		3148	WATER-REACTIVE LIQUID, N.O.S.
4.3		2813	WATER-REACTIVE SOLID, N.O.S.

Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			CLASS 4 (continued)
			Class 4.3 (continued)
4.3	See 2.0.6.6	3543	ARTICLES CONTAINING A SUBSTANCE WHICH IN CONTACT WITH WATER EMITS FLAMMABLE GASES, N.O.S.
4.3	4.1	3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.
4.3	4.2	3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.
4.3	5.1	3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.
4.3	6.1	3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.
4.3	6.1	3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.
4.3	8	3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
4.3	8	3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.



## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
<b>CLASS 5</b>			
<b>Class 5.1</b>			
<b>Specific entries</b>			
5.1		1450	BROMATES, INORGANIC, N.O.S.
5.1		1461	CHLORATES, INORGANIC, N.O.S.
5.1		1462	CHLORITES, INORGANIC, N.O.S.
5.1		1477	NITRATES, INORGANIC, N.O.S.
5.1		1481	PERCHLORATES, INORGANIC, N.O.S.
5.1		1482	PERMANGANATES, INORGANIC, N.O.S.
5.1		1483	PEROXIDES, INORGANIC, N.O.S.
5.1		2627	NITRITES, INORGANIC, N.O.S.
5.1		3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3212	HYPOCHLORITES, INORGANIC, N.O.S.
5.1		3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3214	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3215	PERSULPHATES, INORGANIC, N.O.S.
5.1		3216	PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
5.1		3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
<b>General entries</b>			
5.1		1479	OXIDIZING SOLID, N.O.S.
5.1		3139	OXIDIZING LIQUID, N.O.S.
5.1	See 2.0.6.6	3544	ARTICLES CONTAINING OXIDIZING SUBSTANCE, N.O.S.
5.1	4.1	3137	OXIDIZING SOLID, FLAMMABLE, N.O.S.
5.1	4.2	3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.
5.1	4.3	3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.
5.1	6.1	3087	OXIDIZING SOLID, TOXIC, N.O.S.
5.1	6.1	3099	OXIDIZING LIQUID, TOXIC, N.O.S.
5.1	8	3085	OXIDIZING SOLID, CORROSIVE, N.O.S.
5.1	8	3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.
<b>Class 5.2</b>			
<b>Specific entries</b>			
5.2		3101	ORGANIC PEROXIDE TYPE B, LIQUID
5.2		3102	ORGANIC PEROXIDE TYPE B, SOLID
5.2		3103	ORGANIC PEROXIDE TYPE C, LIQUID
5.2		3104	ORGANIC PEROXIDE TYPE C, SOLID
5.2		3105	ORGANIC PEROXIDE TYPE D, LIQUID
5.2		3106	ORGANIC PEROXIDE TYPE D, SOLID
5.2		3107	ORGANIC PEROXIDE TYPE E, LIQUID
5.2		3108	ORGANIC PEROXIDE TYPE E, SOLID
5.2		3109	ORGANIC PEROXIDE TYPE F, LIQUID
5.2		3110	ORGANIC PEROXIDE TYPE F, SOLID
5.2		3111	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED
5.2		3112	ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED
5.2		3113	ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED
5.2		3114	ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED
5.2		3115	ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
5.2		3116	ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED
5.2		3117	ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED
5.2		3118	ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED
5.2		3119	ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED
5.2		3120	ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED
<b>General entries</b>			
5.2	See 2.0.6.6	3545	ARTICLES CONTAINING ORGANIC PEROXIDE, N.O.S.

## Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			<b>CLASS 6</b>
			<b>Class 6.1</b>
			<b>Specific entries</b>
6.1		1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.
6.1		1549	ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.
6.1		1556	ARSENIC COMPOUND, LIQUID, N.O.S. inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s., and Arsenic sulphides, n.o.s.
6.1		1557	ARSENIC COMPOUND, SOLID, N.O.S. inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s., and Arsenic sulphides, n.o.s.
6.1		1564	BARIUM COMPOUND, N.O.S.
6.1		1566	BERYLLIUM COMPOUND, N.O.S.
6.1		1583	CHLOROPICRIN MIXTURE, N.O.S.
6.1		1588	CYANIDES, INORGANIC, SOLID, N.O.S.
6.1		1601	DISINFECTANT, SOLID, TOXIC, N.O.S.
6.1		1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.
6.1		1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.
6.1		1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.
6.1		1707	THALLIUM COMPOUND, N.O.S.
6.1		1851	MEDICINE, LIQUID, TOXIC, N.O.S.
6.1		1935	CYANIDE SOLUTION, N.O.S.
6.1		2024	MERCURY COMPOUND, LIQUID, N.O.S.
6.1		2025	MERCURY COMPOUND, SOLID, N.O.S.
6.1		2026	PHENYLMERCURIC COMPOUND, N.O.S.
6.1		2206	ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.
6.1		2291	LEAD COMPOUND, SOLUBLE, N.O.S.
6.1		2570	CADMIUM COMPOUND
6.1		2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.
6.1		2856	FLUOROSILICATES, N.O.S.
6.1		3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOIDS SALTS, LIQUID, N.O.S.
6.1		3141	ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.
6.1		3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.
6.1		3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.
6.1		3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.
6.1		3146	ORGANOTIN COMPOUND, SOLID, N.O.S.
6.1		3249	MEDICINE, SOLID, TOXIC, N.O.S.
6.1		3276	NITRILES, TOXIC, LIQUID, N.O.S.
6.1		3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.
6.1		3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.
6.1		3281	METAL CARBONYLS, LIQUID, N.O.S. with LC <sub>50</sub>
6.1		3282	ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S. with LC <sub>50</sub>
6.1		3283	SELENIUM COMPOUND, SOLID, N.O.S. with LC <sub>50</sub>
6.1		3284	TELLURIUM COMPOUND, N.O.S. with LC <sub>50</sub>
6.1		3285	VANADIUM COMPOUND, N.O.S.
6.1		3439	NITRILES, TOXIC, SOLID, N.O.S.
6.1		3440	SELENIUM COMPOUND, LIQUID, N.O.S.
6.1		3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.
6.1		3464	ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.
6.1		3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.
6.1		3466	METAL CARBONYLS, SOLID, N.O.S.
6.1		3467	ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.
6.1	3	3071	MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
6.1	3	3080	ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.
6.1	3	3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.
6.1	3	3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.
6.1	3 + 8	2742	CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.

## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
<b>CLASS 6 (continued)</b>			
<b>Class 6.1 (continued)</b>			
<b>Specific entries (continued)</b>			
6.1	3 + 8	3362	CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.
6.1	8	3277	CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
6.1	8	3361	CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.
<b>Pesticides</b>			
<i>(a) Solid</i>			
6.1		2588	PESTICIDE, SOLID, TOXIC, N.O.S.
6.1		2757	CARBAMATE PESTICIDE, SOLID, TOXIC
6.1		2759	ARSENICAL PESTICIDE, SOLID, TOXIC
6.1		2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC
6.1		2763	TRIAZINE PESTICIDE, SOLID, TOXIC
6.1		2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC
6.1		2775	COPPER BASED PESTICIDE, SOLID, TOXIC
6.1		2777	MERCURY BASED PESTICIDE, SOLID, TOXIC
6.1		2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC
6.1		2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC
6.1		2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC
6.1		2786	ORGANOTIN PESTICIDE, SOLID, TOXIC
6.1		3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC
6.1		3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC
6.1		3349	PYRETHROID PESTICIDE, SOLID, TOXIC
<i>(b) Liquid</i>			
6.1		2902	PESTICIDE, LIQUID TOXIC, N.O.S.
6.1		2992	CARBAMATE PESTICIDE, LIQUID, TOXIC
6.1		2994	ARSENICAL PESTICIDE, LIQUID, TOXIC
6.1		2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC
6.1		2998	TRIAZINE PESTICIDE, LIQUID, TOXIC
6.1		3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC
6.1		3010	COPPER BASED PESTICIDE, LIQUID, TOXIC
6.1		3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC
6.1		3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC
6.1		3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC
6.1		3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC
6.1		3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC
6.1		3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC
6.1		3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC
6.1		3352	PYRETHROID PESTICIDE, LIQUID, TOXIC
6.1	3	2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$
6.1	3	3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE flashpoint $\geq 23^{\circ}\text{C}$

## Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			<b>CLASS 6 (continued)</b>
			<b>Class 6.1 (continued)</b>
			<b>General entries</b>
6.1		2810	TOXIC LIQUID, ORGANIC, N.O.S.
6.1		2811	TOXIC SOLID, ORGANIC, N.O.S.
6.1		3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.
6.1		3243	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.
6.1		3287	TOXIC LIQUID, INORGANIC, N.O.S.
6.1		3288	TOXIC SOLID, INORGANIC, N.O.S.
6.1		3315	CHEMICAL SAMPLE, TOXIC
6.1		3381	TOXIC BY INHALATION LIQUID, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1		3382	TOXIC BY INHALATION LIQUID, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1		3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.
6.1	See 2.0.6.6	3546	ARTICLES CONTAINING TOXIC SUBSTANCE, N.O.S.
6.1	3	2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
6.1	3	3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	3	3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1	3 + 8	3488	TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	3 + 8	3489	TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1	4.1	2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.
6.1	4.1	3535	TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S.
6.1	4.2	3124	TOXIC SOLID, SELF-HEATING, N.O.S.
6.1	4.3	3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.
6.1	4.3	3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.
6.1	4.3	3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	4.3	3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1	4.3 + 3	3490	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	4.3 + 3	3491	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1	5.1	3122	TOXIC LIQUID, OXIDIZING, N.O.S.
6.1	5.1	3086	TOXIC SOLID, OXIDIZING, N.O.S.
6.1	5.1	3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	5.1	3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>
6.1	8	2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
6.1	8	2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
6.1	8	3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
6.1	8	3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
6.1	8	3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>
6.1	8	3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>

Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			<b>CLASS 6 (continued)</b>
			<b>Class 6.2</b>
			<b>Specific entries</b>
6.2		3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO)MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.
6.2		3373	BIOLOGICAL SUBSTANCE, CATEGORY B
6.2		3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid
			<b>General entries</b>
6.2		2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS
6.2		2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only



# Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
△		CLASS 7	
		General entries	
		2908	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – EMPTY PACKAGING
		2909	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM
		2910	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – LIMITED QUANTITY OF MATERIAL
		2911	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – INSTRUMENTS or ARTICLES
		2912	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I) non fissile or fissile-excepted
		2913	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I, SCO-II or SCO-III) non fissile or fissile-excepted
		2915	RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted
		2916	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE non fissile or fissile-excepted
		2917	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE non fissile or fissile-excepted
		2919	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT non fissile or fissile-excepted
		3321	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted
		3322	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted
		3323	RADIOACTIVE MATERIAL, TYPE C PACKAGE non fissile or fissile-excepted
		3324	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE
		3325	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), FISSILE
		3326	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE
		3327	RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE non-special form
		3328	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE
		3329	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE
		3330	RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE
		3331	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE
		3332	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM non fissile or fissile-excepted
		3333	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE

## Appendix A – List of generic and N.O.S. proper shipping names

Class or division	Subsidiary hazard	UN No.	Proper shipping name
<b>CLASS 8</b>			
<b>Specific entries</b>			
8		1719	CAUSTIC ALKALI LIQUID, N.O.S.
8		1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.
8		1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.
8		2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)
8		2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
8		2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
8		2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.
8		2837	BISULPHATES, AQUEOUS SOLUTION
8		2987	CHLOROSILANES, CORROSIVE, N.O.S.
8		3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> –C <sub>12</sub> homologues)
8		3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.
8		3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.
8	3	2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
8	3	2986	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.
8	6.1	3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.
<b>General entries</b>			
8		1759	CORROSIVE SOLID, N.O.S.
8		1760	CORROSIVE LIQUID, N.O.S.
8		3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.
8		3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
8		3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.
8		3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.
8		3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.
8		3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
8		3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
8		3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
8		3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
8	See 2.0.6.6	3547	ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S.
8	3	2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
8	4.1	2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.
8	4.2	3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.
8	4.2	3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.
8	4.3	3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.
8	4.3	3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.
8	5.1	3084	CORROSIVE SOLID, OXIDIZING, N.O.S.
8	5.1	3093	CORROSIVE LIQUID, OXIDIZING, N.O.S.
8	6.1	2922	CORROSIVE LIQUID, TOXIC, N.O.S.
8	6.1	2923	CORROSIVE SOLID, TOXIC, N.O.S.

Appendices

Class or division	Subsidiary hazard	UN No.	Proper shipping name
			CLASS 9
			General entries
9		3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
9		3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
9		3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS
9		3257	ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100°C and below its flashpoint (including molten metals, molten salts, etc.)
9		3258	ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240°C
see SP960		3334	AVIATION REGULATED LIQUID, N.O.S.
see SP960		3335	AVIATION REGULATED SOLID, N.O.S.
9	See 2.0.6.6	3548	ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS, N.O.S.

# Appendix B

## Glossary of terms

**Note:** The provisions of this appendix are not mandatory.

**Caution:** The explanations in this glossary are for information only and are not to be used for purposes of hazard classification.

### Ammunition

Generic term related mainly to articles of military application consisting of all kind of bombs, grenades, rockets, mines, projectiles and other similar devices or contrivances.

### AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge

Ammunition designed to produce a single source of intense light for lighting up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs. The term excludes the following articles which are listed separately: CARTRIDGES, SIGNAL; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; FLARES, AERIAL and FLARES, SURFACE.

### AMMUNITION, INCENDIARY

Ammunition containing incendiary substances which may be a solid, liquid or gel including white phosphorus. Except when the composition is an explosive *per se*, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes:

AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge;

AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge;

AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge.

### AMMUNITION, PRACTICE

Ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge. The term excludes the following articles which are listed separately: GRENADES, PRACTICE.

### AMMUNITION, PROOF

Ammunition containing pyrotechnic substances, used to test the performance or strength of new ammunition, weapon component or assemblies.

### AMMUNITION, SMOKE

Ammunition containing a smoke-producing substance such as chlorosulphonic acid mixture, titanium tetrachloride or white phosphorus; or smoke-producing pyrotechnic composition based on hexachloroethane or red phosphorus. Except when the substance is an explosive *per se*, the ammunition also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke but excludes SIGNALS, SMOKE which are listed separately. The term includes:

AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge;

AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge.

<b>AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge</b>	Ammunition containing tear-producing substance. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.
<b>AMMUNITION, TOXIC with burster, expelling charge or propelling charge</b>	Ammunition containing toxic agent. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.
<b>ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)</b>	Articles that predominantly contain extremely insensitive substances and which demonstrate a negligible probability of accidental initiation or propagation (under normal conditions of transport) and which have passed test series 7.
<b>ARTICLES, PYROPHORIC</b>	Articles which contain a pyrophoric substance (capable of spontaneous ignition when exposed to air) and an explosive substance or component. The term excludes articles containing white phosphorus.
<b>ARTICLES, PYROTECHNIC for technical purposes</b>	Articles which contain pyrotechnic substances and are used for technical purposes such as heat generation, gas generation, theatrical effects, etc. The term excludes the following articles which are listed separately: all ammunition; CARTRIDGES, SIGNAL; CUTTERS, CABLE, EXPLOSIVE; FIREWORKS; FLARES, AERIAL; FLARES, SURFACE; RELEASE DEVICES, EXPLOSIVE; RIVETS, EXPLOSIVE; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; SIGNALS, RAILWAY TRACK, EXPLOSIVE; SIGNALS, SMOKE.
<b>Auxiliary explosive component, isolated</b>	An "isolated auxiliary explosive component" is a small device that explosively performs an operation related to the article's functioning, other than its main explosive load's performance. Functioning of the component does not cause any reaction of the main explosive loads contained within the article.
<b>BLACK POWDER (GUNPOWDER)</b>	Substance consisting of an intimate mixture of charcoal or other carbon and either potassium nitrate or sodium nitrate, with or without sulphur. It may be meal, granular, compressed or pelletized.
<b>Bombs</b>	Explosive articles which are dropped from aircraft. They may contain a flammable liquid with bursting charge, a photo-flash composition or a bursting charge. The term excludes torpedoes (aerial) and includes: BOMBS, PHOTO-FLASH; BOMBS with bursting charge; BOMBS WITH FLAMMABLE LIQUID with bursting charge.
<b>BOOSTERS</b>	Articles consisting of a charge of detonating explosive with or without means of initiation. They are used to increase the initiating power of detonators or detonating cord.
<b>BURSTERS, explosive</b>	Articles consisting of a small charge of explosive used to open projectiles or other ammunition in order to disperse their contents.
<b>Cartridges, blank</b>	Articles which consist of a cartridge case with a centre or rim fire primer and a confined charge of smokeless or black powder but no projectile. Used for training, saluting or in starter pistols, tools, etc.
<b>CARTRIDGES, FLASH</b>	Articles consisting of a casing, a primer and flash powder, all assembled in one piece ready for firing.



Cartridges for Weapons	.1 Fixed (assembled) or semi-fixed (partially-assembled) ammunition designed to be fired from weapons. Each cartridge includes all the components necessary to function the weapon once. The proper shipping name shall be used for small arms cartridges that cannot be described as “cartridges, small arms”. Separate loading ammunition is included under this proper shipping name when the propelling charge and projectile are packed together (see also “Cartridges, blank”).
	.2 Incendiary, smoke, toxic and tear-producing cartridges are described in this Glossary under AMMUNITION, INCENDIARY etc.
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	Ammunition consisting of a projectile without bursting charge but with a propelling charge. The presence of a tracer can be disregarded for classification purposes provided that the predominant hazard is that of the propelling charge.
CARTRIDGES, OIL WELL	Articles consisting of a casing of thin fibre, metal or other material containing only propellant which projects a hardened projectile. The term excludes the following articles which are listed separately: CHARGES, SHAPED.
CARTRIDGES, POWER DEVICE	Articles designed to accomplish mechanical actions. They consist of a casing with a charge of deflagrating explosive and a means of ignition. The gaseous products of the deflagration produce inflation, or linear or rotary motion, or activate diaphragms, valves or switches or project fastening devices or extinguishing agents.
CARTRIDGES, SIGNAL	Articles designed to fire coloured flares or other signals from signal pistols, etc.
CARTRIDGES, SMALL ARMS	Ammunition consisting of a cartridge case fitted with a centre or rim fire primer and containing both a propelling charge and a solid projectile. They are designed to be fired in weapons of calibre not larger than 19.1 mm. Shotgun cartridges of any calibre are included in this description. The term excludes: CARTRIDGES, SMALL ARMS, BLANK listed separately in the Dangerous Goods List; and some small arms cartridges which are listed under CARTRIDGES FOR WEAPONS, INERT PROJECTILE.
CASES, CARTRIDGE, EMPTY, WITH PRIMER	Articles consisting of a cartridge case made from metal, plastics or other non-flammable material, in which the only explosive component is the primer.
CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	Articles consisting of cartridge cases made partly or entirely from nitrocellulose.
Charges, bursting	Articles consisting of a charge of detonating explosive such as hexolite, octolite or plastics bonded explosive designed to produce effect by blast or fragmentation.
CHARGES, DEMOLITION	Articles containing a charge of a detonating explosive in a casing of fibreboard, plastics, metal or other material. The term excludes the following articles which are listed separately: bombs, mines, etc.
CHARGES, DEPTH	Articles consisting of a charge of detonating explosive contained in a drum or projectile. They are designed to detonate under water.
Charges, expelling	A charge of deflagrating explosive designed to eject the payload from the parent articles without damage.

CHARGES, EXPLOSIVE, COMMERCIAL without detonator	Articles consisting of a charge of detonating explosive without means of initiation, used for explosive welding, jointing, forming and other metallurgical processes.
CHARGES, PROPELLING	Articles consisting of a propellant charge in any physical form, with or without a casing, for use as a component of rocket motors or for reducing the drag of projectiles.
CHARGES, PROPELLING FOR CANNON	Articles consisting of a propellant charge in any physical form, with or without a casing, for use in a cannon.
CHARGES, SHAPED, without detonator	Articles consisting of a casing containing a charge of detonating explosive with a cavity lined with rigid material, without means of initiation. They are designed to produce a powerful, penetrating jet effect.
CHARGES, SHAPED, FLEXIBLE, LINEAR	Articles consisting of a V-shaped core of a detonating explosive clad by a flexible metal sheath.
CHARGES, SUPPLEMENTARY, EXPLOSIVE	Articles consisting of a small removable booster used in the cavity of a projectile between the fuze and the bursting charge.
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	Articles containing an explosive designed to transmit the detonation or deflagration within an explosive train.
CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	Articles whose functioning depends upon physico-chemical reaction of their contents with water.
CORD, DETONATING, flexible	Article consisting of a core of detonating explosive enclosed in spun fabric, with plastics or other covering unless the spun fabric is sift-proof.
CORD (FUSE), DETONATING, metal clad	Article consisting of a core of detonating explosive clad by a soft metal tube with or without protective covering. When the core contains a sufficiently small quantity of explosive, the words "MILD EFFECT" are added.
CORD, IGNITER	Article consisting of textile yarns covered with black powder or another fast-burning pyrotechnic composition and of a flexible protective covering; or it consists of a core of black powder surrounded by a flexible woven fabric. It burns progressively along its length with an external flame and is used to transmit ignition from a device to a charge or primer.
CUTTERS, CABLE, EXPLOSIVE	Articles consisting of a knife-edged device which is driven by a small charge of deflagrating explosive into an anvil.
DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	Non-electric detonators assembled with and activated by such means as safety fuse, shock tube, flash tube or detonating cord. They may be of instantaneous design or incorporate delay elements. Detonating relays incorporating detonating cord are included. Other detonating relays are included in "Detonators, non-electric".
△ Detonators	Articles consisting of a small metal or plastics tube containing explosives such as lead azide, PETN or combinations of explosives. They are designed to start a detonation train. They may be constructed to detonate instantaneously, or may contain a delay element. The term includes:  DETONATORS FOR AMMUNITION and DETONATORS for blasting, ELECTRIC, NON-ELECTRIC, and ELECTRONIC programmable.  Detonating relays without flexible detonating cord are included.

■ <b>DETONATORS, ELECTRONIC programmable for blasting</b>	Detonators with enhanced safety and security features, utilizing electronic components to transmit a firing signal with validated commands and secure communications. Detonators of this type cannot be initiated by other means.
<b>Entire load and total contents</b>	The phrases “entire load” and “total contents” mean such a substantial proportion that the practical hazard shall be assessed by assuming simultaneous explosion of the whole of the explosive content of the load or package.
<b>Explode</b>	The verb used to indicate those explosive effects capable of endangering life and property through blast, heat and projection of missiles. It encompasses both deflagration and detonation.
<b>Explosion of the total contents</b>	The phrase “explosion of the total contents” is used in testing a single article or package or a small stack of articles or packages.
<b>Explosive, blasting</b>	Detonating explosive substances used in mining, construction and similar tasks. Blasting explosives are assigned to one of five types. In addition to the ingredients listed, blasting explosives may also contain inert components such as kieselguhr, and minor ingredients such as colouring agents and stabilizers.
<b>EXPLOSIVE, BLASTING, TYPE A</b>	Substances consisting of liquid organic nitrates such as nitroglycerin or a mixture of such ingredients with one or more of the following: nitrocellulose; ammonium nitrate or other inorganic nitrates; aromatic nitro-derivatives, or combustible materials, such as wood-meal and aluminium powder. Such explosives shall be in powdery, gelatinous or elastic form.  The term includes dynamite gelatine, blasting and gelatine dynamites.
<b>EXPLOSIVE, BLASTING, TYPE B</b>	Substances consisting of (a) a mixture of ammonium nitrate or other inorganic nitrates with an explosive such as trinitrotoluene, with or without other substances such as wood-meal and aluminium powder, or (b) a mixture of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, or chlorates.
<b>EXPLOSIVE, BLASTING, TYPE C</b>	Substances consisting of a mixture of either potassium or sodium chlorate or potassium, sodium or ammonium perchlorate with organic nitro-derivatives or combustible materials such as wood-meal or aluminium powder or a hydrocarbon. Such explosives shall not contain nitroglycerin or similar liquid organic nitrates.
<b>EXPLOSIVE, BLASTING, TYPE D</b>	Substances consisting of a mixture of organic nitrated compounds and combustible materials such as hydrocarbons and aluminium powder. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, chlorates or ammonium nitrate. The term generally includes plastic explosives.
<b>EXPLOSIVE, BLASTING, TYPE E</b>	Substances consisting of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizers, some or all of which are in solution. The other constituents may include nitro-derivatives such as trinitrotoluene, hydrocarbons or aluminium powder.  The term includes explosives, emulsion; explosives slurry and explosives, water gel.

Appendices

Explosive, deflagrating	A substance, e.g. propellant, which reacts by deflagration rather than detonation when ignited and used in its normal manner.
Explosive, detonating	A substance which reacts by detonation rather than deflagration when initiated and used in its normal manner.
Explosive, extremely insensitive substance (EIS)	A substance which has demonstrated through tests that it is so insensitive that there is very little probability of accidental initiation.
Explosive, primary	Explosive substance manufactured with a view to producing a practical effect by explosion which is very sensitive to heat, impact or friction and which, even in very small quantities, either detonates or burns very rapidly. It is able to transmit detonation (in the case of initiating explosive) or deflagration to secondary explosives close to it. The main primary explosives are mercury fulminate, lead azide and lead styphnate.
Explosive, secondary	Explosive substance which is relatively insensitive (when compared to primary explosives), which is usually initiated by primary explosives with or without the aid of boosters or supplementary charges. Such an explosive may react as a deflagrating or as a detonating explosive.
<b>FIREWORKS</b>	Pyrotechnic articles designed for entertainment.
Flares	Articles containing pyrotechnic substances which are designed for use to illuminate, identify, signal or warn. The term includes: FLARES, AERIAL; FLARES, SURFACE.
<b>FLASH POWDER</b>	Pyrotechnic substance which, when ignited, produces an intense light.
<b>FRACTURING DEVICES, EXPLOSIVE for oil wells, without detonator</b>	Articles consisting of a charge of detonating explosive contained in a casing without means of initiation. They are used to fracture the rock around a drill shaft to assist the flow of crude oil from the rock.
Fuse/Fuze	Although these two words have a common origin (French fusée, fusil) and are sometimes considered to be different spellings, it is useful to maintain the convention that fuse refers to a cord-like igniting device whereas fuze refers to a device used in ammunition which incorporates mechanical, electrical, chemical or hydrostatic components to initiate a train by deflagration or detonation.
<b>FUSE, IGNITER, tubular, metal clad</b>	Article consisting of a metal tube with a core of deflagrating explosive.
<b>FUSE, INSTANTANEOUS, NON-DETONATING (QUICKMATCH)</b>	Article consisting of cotton yarns impregnated with fine black powder (Quickmatch). It burns with an external flame and is used in ignition trains for fireworks, etc.
<b>FUSE, SAFETY</b>	Article consisting of a core of fine-grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings. When ignited, it burns at a predetermined rate without any external explosive effect.
Fuzes	Articles designed to start a detonation or a deflagration in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components and generally protective features. The term includes: FUZES, DETONATING; FUZES, DETONATING with protective features; FUZES, IGNITING.

<b>GRENADES, hand or rifle</b>	<p>Articles which are designed to be thrown by hand or to be projected by a rifle. The term includes:</p> <p>GRENADES, hand or rifle, with bursting charge;</p> <p>GRENADES, PRACTICE, hand or rifle.</p> <p>The term excludes grenades, smoke which are listed under AMMUNITION, SMOKE.</p>
<b>IGNITERS</b>	<p>Articles containing one or more explosive substances used to start deflagration in an explosive train. They may be actuated chemically, electrically or mechanically. This term excludes the following articles which are listed separately: CORD, IGNITER; FUSE, IGNITER; FUSE, NON-DETONATING; FUZES, IGNITING; LIGHTERS, FUSE; PRIMERS, CAP TYPE; PRIMERS, TUBULAR.</p>
<b>Ignition, means of</b>	<p>A general term used in connection with the method employed to ignite a deflagrating train of explosive or pyrotechnic substances (for example: a primer for a propelling charge; an igniter for a rocket motor; an igniting fuze).</p>
<b>Initiation, means of</b>	<ol style="list-style-type: none"> <li>.1 A device intended to cause the detonation of an explosive (for example: detonator; detonator for ammunition; detonating fuze).</li> <li>.2 The term “with its own means of initiation” means that the contrivance has its normal initiating device assembled to it and this device is considered to present a significant risk during transport but not one great enough to be unacceptable. The term does not apply, however, to a contrivance packed together with its means of initiation provided the device is packaged so as to eliminate the risk of causing detonation of the contrivance in the event of accidental functioning of the initiating device. The means of initiating can even be assembled to the contrivance provided there are protective features such that the device is very unlikely to cause detonation of the contrivance in conditions which are associated with transport.</li> <li>.3 For the purposes of classification any means of initiation without two effective protective features shall be regarded as compatibility group B; an article with its own means of initiation, without two effective protective features, would be compatibility group F. On the other hand a means of initiation which itself possesses two effective protective features would be compatibility group D; and an article with a means of initiation which possesses two effective protective features would be compatibility group D or E. Means of initiation adjudged as having two effective protective features shall have been approved by the competent national authority. A common and effective way of achieving the necessary degree of protection is to use a means of initiation which incorporates two or more independent safety features.</li> </ol>
<b>JET PERFORATING GUNS, CHARGED, oil well, without detonator</b>	<p>Articles consisting of a steel tube or metallic strip, into which are inserted shaped charges connected by detonating cord, without means of initiation.</p>
<b>LIGHTERS, FUSE</b>	<p>Articles of various design actuated by friction, percussion or electricity and used to ignite safety fuse.</p>
<b>Mass explosion</b>	<p>Explosion which affects almost the entire load virtually instantaneously.</p>



<b>MINES</b>	Articles consisting normally of metal or composition receptacles and a bursting charge. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes "Bangalore torpedoes".
<b>OXYGEN GENERATORS, CHEMICAL</b>	Oxygen generators, chemical, are devices containing chemicals which upon activation release oxygen as a product of chemical reaction. Chemical oxygen generators are used for the generation of oxygen for respiratory support, e.g. in aircraft, submarines, spacecraft, bomb shelters and breathing apparatus. Oxidizing salts such as chlorates and perchlorates of lithium, sodium and potassium, which are used in chemical oxygen generators, evolve oxygen when heated. These salts are mixed (compounded) with a fuel, usually iron powder, to form a chlorate candle, which produces oxygen by continuous reaction. The fuel is used to generate heat by oxidation. Once the reaction begins, oxygen is released from the hot salt by thermal decomposition (a thermal shield is used around the generator). A portion of the oxygen reacts with the fuel to produce more heat which produces more oxygen, and so on. Initiation of the reaction can be achieved by a percussion device, friction device or electric wire.
<b>POWDER CAKE (POWDER PASTE), WETTED</b>	Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerin or other liquid organic nitrates or a mixture of these.
<b>POWDER, SMOKELESS</b>	Substance based on nitrocellulose used as propellant. The term includes propellants with a single base (nitrocellulose (NC) alone), those with a double base (such as NC and nitroglycerin (NG)) and those with a triple base (such as NC/NG/nitroguanidine). Cast, pressed or bag-charges of smokeless powder are listed under "CHARGES, PROPELLING" or "CHARGES, PROPELLING FOR CANNON".
<b>PRIMERS, CAP TYPE</b>	Articles consisting of a metal or plastics cap containing a small amount of primary explosive mixture that is readily ignited by impact. They serve as igniting elements in small arms cartridges, and in percussion primers for propelling charges.
<b>PRIMERS, TUBULAR</b>	Articles consisting of a primer for ignition and an auxiliary charge of deflagrating explosive such as black powder used to ignite the propelling charge in a cartridge case for cannon, etc.
<b>PROJECTILES</b>	Articles such as a shell or bullet which are projected from a cannon or other artillery gun, rifle or other small arm. They may be inert, with or without tracer, or may contain a burster or expelling charge or a bursting charge. The term includes: <ul style="list-style-type: none"> <li>PROJECTILES, inert, with tracer;</li> <li>PROJECTILES with burster or expelling charge;</li> <li>PROJECTILES with bursting charge.</li> </ul>
<b>PROPELLANTS</b>	Deflagrating explosive used for propulsion or for reducing the drag of projectiles.
<b>PROPELLANTS, LIQUID</b>	Substances consisting of a deflagrating liquid explosive, used for propulsion.
<b>PROPELLANTS, SOLID</b>	Substances consisting of a deflagrating solid explosive, used for propulsion.

<b>RELEASE DEVICES, EXPLOSIVE</b>	Articles consisting of a small charge of explosive with means of initiation. They sever rods or links to release equipment quickly.
<b>ROCKET MOTORS</b>	Articles consisting of a solid, liquid or hypergolic fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile. The term includes: ROCKET MOTORS; ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge; ROCKET MOTORS, LIQUID FUELLED.
<b>ROCKETS</b>	Articles consisting of a rocket motor and a payload which may be an explosive warhead or other device. The term includes guided missiles and: ROCKETS, LINE-THROWING; ROCKETS, LIQUID FUELLED with bursting charge; ROCKETS with bursting charge; ROCKETS with expelling charge; ROCKETS with inert head.
<b>SAFETY DEVICES, electrically initiated</b>	Articles which contain pyrotechnic substances or dangerous goods of other classes and are used in vehicles, vessels or aircraft to enhance safety to persons. Examples are air bag inflators, air bag modules, seat-belt pretensioners and pyromechanical devices. These pyromechanical devices are assembled components for tasks such as but not limited to separation, locking, or release-and-drive or occupant restraint. The term includes "SAFETY DEVICES, PYROTECHNIC".
<b>SIGNALS</b>	Articles containing pyrotechnic substances designed to produce signals by means of sound, flame or smoke or any combinations thereof. The term includes: SIGNAL DEVICES, HAND; SIGNALS, DISTRESS, ship; SIGNALS, RAILWAY TRACK, EXPLOSIVE; SIGNALS, SMOKE.
<b>SOUNDING DEVICES, EXPLOSIVE</b>	Articles consisting of a charge of detonating explosive. They are dropped from ships and function when they reach a predetermined depth or the sea bed.
<b>STABILIZED</b>	Stabilized means that the substance is in a condition that precludes uncontrolled reaction. This may be achieved by methods such as the addition of an inhibiting chemical, degassing the substance to remove dissolved oxygen and inerting the air space in the package, or maintaining the substance under temperature control.
<b>SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.</b>	Substances which present a mass explosion hazard but which are so insensitive that there is very little probability of initiation, or of transition from burning to detonation (under normal conditions of transport) and which have passed test series 5.

**TORPEDOES**

Articles containing an explosive or non-explosive propulsion system and designed to be propelled through water. They may contain an inert head or a warhead. The term includes:

- TORPEDOES, LIQUID FUELLED with inert head;
- TORPEDOES, LIQUID FUELLED with or without bursting charge;
- TORPEDOES with bursting charge.

**TRACERS FOR AMMUNITION**

Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.

**Warheads**

Articles consisting of detonating explosives. They are designed to be fitted to a rocket, guided missile or torpedo. They may contain a burster or expelling charge or bursting charge. The term includes:

- WARHEADS, ROCKET with burster or expelling charge;
- WARHEADS, ROCKET with bursting charge;
- WARHEADS, TORPEDO with bursting charge.

# INDEX





# Index

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In this index, the word “see”, after the name in the substance, material or article column, means that it is a synonym and for details regarding the transport provisions reference shall be made to the entry in the Dangerous Goods List (chapter 3.2) which is relevant to the UN number/proper shipping name stated against the synonym.

## Method of indexing

Substances, materials and articles have been listed in the alphabetical order of their names. For the purpose of determining the alphabetical order, numbers and roman numerals (I), (II) etc. and the prefixes listed below have been disregarded, although they form an integral part of the name:

<i>N-</i>	<i>sym-</i>
<i>n- or normal-</i>	<i>uns-</i>
<i>sec- or secondary-</i>	<i>cis-</i>
<i>tert- or tertiary-</i>	<i>trans-</i>
<i>o- or ortho-</i>	<i>d-</i>
<i>m- or meta-</i>	<i>α- or alpha-</i>
<i>p- or para-</i>	<i>β- or beta-</i>
	<i>γ- or gamma-</i>

## Note 1

Certain marine pollutants are identified only in the index. These marine pollutants have not been assigned to an N.O.S. or generic entry. These marine pollutants may possess properties of classes 1 to 8 and should be classified accordingly. A substance which does not fall within the criteria of these classes should be offered for transport as an ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., UN 3077, or as an ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., UN 3082, under these entries in class 9.



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ACETALDEHYDE OXIME	–	3	2332
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<i>beta</i> -Acetaldoxime, <i>see</i>	–	3	2332
ACETIC ACID, GLACIAL	–	8	2789
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ACETIC ACID SOLUTION, not less than 50% but no more than 80% acid, by mass	–	8	2790
ACETIC ACID SOLUTION, more than 80% acid, by mass	–	8	2789
Acetic aldehyde, <i>see</i>	–	3	1089
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ACETYL CHLORIDE	–	3	1717
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AMMONIA SOLUTION, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	P	2.3	3318
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4-(Benzyl(methyl)amino)-3-ethoxybenzenediazonium zinc chloride (concentration 100%), <i>see</i>	–	4.1	3236
BERYLLIUM COMPOUND, N.O.S.	–	6.1	1566
BERYLLIUM NITRATE	–	5.1	2464
BERYLLIUM POWDER	–	6.1	1567
<i>gamma</i> -Bhc, <i>see</i> ORGANOCHLORINE PESTICIDE	P	–	–
BHUSA	–	4.1	1327
Bichloroacetic acid, <i>see</i>	–	8	1764
BICYCLO[2.2.1]-HEPTA-2,5-DIENE, STABILIZED	–	3	2251
Bifluorides, N.O.S., <i>see</i>	–	8	1740
Binapacryl, <i>see</i> SUBSTITUTED NITROPHENOL PESTICIDE	P	–	–
BIOLOGICAL SUBSTANCE, CATEGORY B	–	6.2	3373
BIOMEDICAL WASTE, N.O.S.	–	6.2	3291
(BIO)MEDICAL WASTE, N.O.S.	–	6.2	3291
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BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	–	6.1	3016
BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flashpoint not less than 23°C	–	6.1	3015
BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	–	6.1	2781
Bis-, <i>see</i> Di-	–	–	–
<i>N,N</i> -Bis(2-hydroxyethyl)oleamide (loa), <i>see</i> <b>Note 1</b>	P	–	–
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BISULPHITES, AQUEOUS SOLUTION, N.O.S.	–	8	2693
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Bleach liquor, <i>see</i>	–	8	1791

Substance, material or article	MP	Class	UN No.
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BOMBS, PHOTO-FLASH	–	1.1F	0037
BOMBS, PHOTO-FLASH	–	1.2G	0039
BOMBS, PHOTO-FLASH	–	1.3G	0299
BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device	–	8	2028
Bombs, target identification, see AMMUNITION, ILLUMINATING	–	–	–
BOMBS with bursting charge	–	1.1D	0034
BOMBS with bursting charge	–	1.1F	0033
BOMBS with bursting charge	–	1.2D	0035
BOMBS with bursting charge	–	1.2F	0291
BOMBS WITH FLAMMABLE LIQUID with bursting charge	–	1.1J	0399
BOMBS WITH FLAMMABLE LIQUID with bursting charge	–	1.2J	0400
BOOSTERS WITH DETONATOR	–	1.1B	0225
BOOSTERS WITH DETONATOR	–	1.2B	0268
BOOSTERS without detonator	–	1.1D	0042
BOOSTERS without detonator	–	1.2D	0283
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Bornyl alcohol, see	–	4.1	1312
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Boron fluoride, compressed, see	–	2.3	1008
BORON TRIBROMIDE	–	8	2692
BORON TRICHLORIDE	–	2.3	1741
BORON TRIFLUORIDE	–	2.3	1008
BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID	–	8	1742
BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	–	8	3419
BORON TRIFLUORIDE, ADSORBED	–	2.3	3519
BORON TRIFLUORIDE DIETHYL ETHERATE	–	8	2604
BORON TRIFLUORIDE DIHYDRATE	–	8	2851
BORON TRIFLUORIDE DIMETHYL ETHERATE	–	4.3	2965
BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID	–	8	1743
BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	–	8	3420
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BROMATES, INORGANIC, N.O.S.	–	5.1	1450
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BROMOACETYL BROMIDE	–	8	2513
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BROMOBENZENE	P	3	2514
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BROMOBENZYL CYANIDES, SOLID	–	6.1	3449
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1-BROMO-3-CHLOROPROPANE	–	6.1	2688
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1-Bromo-2,3-epoxypropane, <i>see</i>	P	6.1	2558
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Substance, material or article	MP	Class	UN No.
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<i>tert</i> -Butyl peroxybutyl fumarate (concentration ≤ 52%, with diluent Type A), see	–	5.2	3105
<i>tert</i> -Butyl peroxyacrylonitrile (concentration ≤ 77%, with diluent Type A), see	–	5.2	3105
<i>tert</i> -Butyl peroxydiethylacetate (concentration ≤ 100%), see	–	5.2	3113
<i>tert</i> -Butyl peroxy-2-ethylhexanoate (concentration ≤ 12%) + 2,2-di-( <i>tert</i> -butylperoxy)butane (concentration ≤ 14%), with diluent Type A and inert solid, see	–	5.2	3106
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<i>tert</i> -Butyl peroxy-2-ethylhexanoate (concentration > 32–52%, with diluent Type B), see	–	5.2	3117
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Di- <i>normal</i> -butyl ketone, <i>see</i>	P	3	1224
Di- <i>tert</i> -butyl peroxide (concentration ≤ 52%, with diluent Type B), <i>see</i>	–	5.2	3109
Di- <i>tert</i> -butyl peroxide (concentration > 52–100%), <i>see</i>	–	5.2	3107
Di- <i>tert</i> -butyl peroxyazolate (concentration ≤ 52%, with diluent Type A), <i>see</i>	–	5.2	3105
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	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $\leq$ 27%, with diluent Type A), see	–	5.2	3107
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $\leq$ 42%, with diluent Type A), see	–	5.2	3109
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $\leq$ 42%, with diluent Type A and inert solid), see	–	5.2	3106
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $>$ 42–52%, with diluent Type A)	–	5.2	3105
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $>$ 52–80%, with diluent Type A), see	–	5.2	3103
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $\leq$ 72%, with diluent Type B), see	–	5.2	3103
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane (concentration $>$ 80–100%), see	–	5.2	3101
	1,1-Di-( <i>tert</i> -butylperoxy)cyclohexane + <i>tert</i> -butyl peroxy-2-ethylhexanoate (concentration $\leq$ 43% + $\leq$ 16%, with diluent Type A)	–	5.2	3105
	Di- <i>n</i> -butyl peroxydicarbonate (concentration $\leq$ 27%, with diluent Type B), see	–	5.2	3117
	Di- <i>n</i> -butyl peroxydicarbonate (concentration $>$ 27–52%, with diluent Type B), see	–	5.2	3115
	Di- <i>n</i> -butyl peroxydicarbonate (concentration $\leq$ 42% as a stable dispersion in water (frozen)), see	–	5.2	3118
	Di- <i>sec</i> -butyl peroxydicarbonate (concentration $\leq$ 52%, with diluent Type B), see	–	5.2	3115
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	Di-( <i>tert</i> -butylperoxyisopropyl)benzene(s) (concentration $>$ 42–100%, with inert solid), see	–	5.2	3106
	Di-( <i>tert</i> -butylperoxy) phthalate (concentration $\leq$ 42%, with diluent Type A), see	–	5.2	3107
	Di-( <i>tert</i> -butylperoxy) phthalate (concentration $>$ 42–52%, with diluent Type A), see	–	5.2	3105
	Di-( <i>tert</i> -butylperoxy) phthalate (concentration $\leq$ 52%, as a paste with diluent Type A, with or without water), see	–	5.2	3106
	2,2-Di-( <i>tert</i> -butylperoxy)propane (concentration $\leq$ 42%, with diluent Type A, with inert solid), see	–	5.2	3106
	2,2-Di-( <i>tert</i> -butylperoxy)propane (concentration $\leq$ 52% with diluent Type A), see	–	5.2	3105
	1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $\leq$ 32%, with diluents Type A and B), see	–	5.2	3107
	1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $\leq$ 57%, with diluent Type A), see	–	5.2	3107
	1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $\leq$ 57%, with inert solid), see	–	5.2	3110
	1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $>$ 57–90%, with diluent Type A), see	–	5.2	3103

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1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $\leq 77\%$ , with diluent Type B), see	–	5.2	3103
1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $\leq 90\%$ , with diluent Type B)	–	5.2	3103
1,1-Di-( <i>tert</i> -butylperoxy)-3,3,5-trimethylcyclohexane (concentration $> 90\text{--}100\%$ ), see	–	5.2	3101
2,4-Di- <i>tert</i> -butylphenol, see <b>Note 1</b>	–	–	–
2,6-Di- <i>tert</i> -butylphenol, see <b>Note 1</b>	–	–	–
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<i>para</i> -Dichlorobenzene, see	P	9	3082
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PICRIC ACID, WETTED with not less than 30% water, by mass	–	4.1	1344
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TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 200 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	–	6.1	3488
TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC <sub>50</sub> lower than or equal to 1,000 mL/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	–	6.1	3489
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VINYL CHLORIDE, STABILIZED	–	2.1	1086
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VINYLDENE CHLORIDE, STABILIZED	P	3	1303
Vinyldene fluoride, <i>see</i>	–	2.1	1959
VINYL ISOBUTYL ETHER, STABILIZED	–	3	1304
VINYL METHYL ETHER, STABILIZED	–	2.1	1087
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