

## SCHEDULE 7

Regulation 18

### REQUIREMENTS FOR THE LOADING, STOWAGE, UNLOADING AND CLEANING OF CONTAINERS AND WAGONS CARRYING CERTAIN DANGEROUS GOODS

## PART I PACKAGES

### General requirements

1.—(1) Unless requirements to the contrary appear in this Schedule, packages labelled as containing dangerous goods may be loaded—

- (a) in containers;
- (b) in unsheeted, open wagons;
- (c) in sheeted, open wagons; or
- (d) in closed wagons.

(2) Packages labelled as containing dangerous goods whose packagings are made of materials sensitive to moisture shall be loaded in containers, sheeted, open wagons or closed wagons.

(3) Packages labelled as containing dangerous goods shall be protected against damage that may be caused by other packages.

(4) Packages labelled as containing dangerous goods shall be loaded into containers or wagons so that they cannot shift dangerously, tip over or fall.

(5) Packages labelled as containing dangerous goods shall not be thrown or subjected to impact.

(6) Packages labelled as containing dangerous goods with a classification code of 4.1 (other than SELF-REACTIVE SUBSTANCES), 4.2, 4.3, 6.2 or 9 shall be loaded in containers, sheeted, open wagons or closed wagons.

(7) Packages labelled as containing SELF-REACTIVE SUBSTANCES or dangerous goods with a classification code 5.2 shall be loaded in large containers or, closed wagons with adequate ventilation.

### Explosives (classification code 1)

2.—(1) The following sub-paragraphs of this paragraph shall only apply to large containers and wagons constructed after 31 December 1996.

(2) No metal objects shall be allowed to protrude in the interior of any large container or wagon used for the carriage of explosives, other than those metal objects which form part of the construction of the large container or wagon concerned.

(3) Packages labelled as containing explosive articles or substances in a Division whose Division number is 1.1, 1.2, 1.3, 1.5 or 1.6 shall only be carried in wagons or large containers which have been fitted with regulation sheet steel spark-guards.

(4) The regulation sheet steel spark-guards referred to in sub-paragraph (3) above shall not be fixed directly to the floor of the wagon or large container concerned where that floor is made of wood.

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**Gases: compressed, liquefied or dissolved under pressure (classification code 2)**

3.—(1) Receptacles containing GASES: COMPRESSED, LIQUEFIED OR DISSOLVED UNDER PRESSURE shall be stowed in large containers or wagons in compliance with the following requirements—

- (a) cylinders with a capacity not exceeding 150 litres shall be laid parallel to or at right angles to the longitudinal axis of the large container or wagon, except that those situated near the end walls shall be laid at right angles to the said axis;
- (b) short cylinders of diameter of 30 centimetres or over may be stowed longitudinally with their valve protective devices directed towards the middle of the large container or wagon;
- (c) cylinders which are sufficiently stable or which are carried in suitable devices which prevent them from overturning may be placed upright;
- (d) cylinders which are laid flat shall be so wedged, made fast or otherwise suitably and securely fixed that they cannot shift;
- (e) receptacles containing any of the following goods shall always be placed in the position for which they were designed and protected against any possibility of being damaged by other packages—

- ARGON
- CARBON DIOXIDE
- HELIUM
- KRYPTON
- NEON
- NITROGEN
- NITROUS OXIDE N<sub>2</sub>O (oxidizing)
- OXYGEN (oxidizing)
- XENON
- Any mixture of the goods above
- AIR

- (f) receptacles designed to be rolled shall be laid with their longitudinal axis parallel to that of the large container or wagon and shall be secured against any lateral movement.

(2) Where pallets loaded with metal aerosol dispensers (grouped together in units on trays and sealed with a suitable plastic wrapping) are stacked, each tier of pallets shall be evenly distributed over the lower tier, if necessary by the interposition of a material of adequate strength.

**Flammable solids (classification code 4.1)**

4.—(1) Packages containing any of the following goods shall be loaded in containers or wagons which are closed and adequately ventilated—

- UN 3221 SELF-REACTIVE LIQUID TYPE B
- UN 3222 SELF-REACTIVE SOLID TYPE B
- UN 3223 SELF-REACTIVE LIQUID TYPE C
- UN 3224 SELF-REACTIVE SOLID TYPE C
- UN 3225 SELF-REACTIVE LIQUID TYPE D
- UN 3226 SELF-REACTIVE SOLID TYPE D
- UN 3227 SELF-REACTIVE LIQUID TYPE E

UN 3228 SELF-REACTIVE SOLID TYPE E  
UN 3229 SELF-REACTIVE LIQUID TYPE F  
UN 3230 SELF-REACTIVE SOLID TYPE F

(2) Packages containing FLAMMABLE SOLIDS shall be loaded in—

- (a) sheeted, open containers;
- (b) sheeted, open wagons;
- (c) closed containers; or
- (d) closed wagons.

(3) Packages labelled as containing FLAMMABLE SOLIDS and displaying the subsidiary hazard sign “liable to explosion” shall be loaded so that a free circulation of air within the loading space provides a uniform temperature for the load.

(4) Where the contents of a container or wagon exceed 5000 kg of FLAMMABLE SOLIDS in packages and the packages display the subsidiary hazard sign “liable to explosion”, the load shall be divided into stacks of not more than 5000 kg separated by air spaces of at least 0.05 m.

#### **Oxidizing substances (classification code 5.1)**

5.—(1) Containers and wagons shall be thoroughly cleaned and in particular be free of any combustible debris before they are loaded with packages containing OXIDIZING SUBSTANCES.

(2) The use of straw or any other readily combustible material for stowing packages containing OXIDIZING SUBSTANCES is prohibited.

(3) Where flexible intermediate bulk containers are used for the carriage of any of the following goods—

UN 1442 AMMONIUM PERCHLORATE  
UN 1450 BROMATES, INORGANIC, N.O.S.  
UN 1452 CALCIUM CHLORATE  
UN 1455 CALCIUM PERCHLORATE  
UN 1458 CHLORATE AND BORATE MIXTURES  
UN 1459 CHLORATE AND MAGNESIUM CHLORIDE MIXTURE  
UN 1461 CHLORATES, INORGANIC, N.O.S.  
UN 1473 MAGNESIUM BROMATE  
UN 1475 MAGNESIUM PERCHLORATE  
UN 1481 PERCHLORATES, INORGANIC, N.O.S.  
UN 1484 POTASSIUM BROMATE  
UN 1485 POTASSIUM CHLORATE  
UN 1489 POTASSIUM PERCHLORATE  
UN 1494 SODIUM BROMATE  
UN 1495 SODIUM CHLORATE  
UN 1502 SODIUM PERCHLORATE  
UN 1506 STRONTIUM CHLORATE  
UN 1508 STRONTIUM PERCHLORATE  
UN 1513 ZINC CHLORATE  
UN 2427 POTASSIUM CHLORATE, AQUEOUS SOLUTION

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UN 2428 SODIUM CHLORATE, AQUEOUS SOLUTION  
UN 2429 CALCIUM CHLORATE, AQUEOUS SOLUTION  
UN 2721 COPPER CHLORATE  
UN 2723 MAGNESIUM CHLORATE  
UN 3210 CHLORATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.  
UN 3211 PERCHLORATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.—  
UN 3213 BROMATES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.

- (a) they shall be carried in
- (i) a container,
  - (ii) a closed wagon,
  - (iii) a moveable-roof wagon, or
  - (iv) an open wagon covered with an impermeable and non-combustible sheet, and
- measures shall be taken to ensure that the goods cannot, in the event of a leak, come into contact with wood or any other combustible material.

**Organic peroxides (classification code 5.2)**

6.—(1) Containers and wagons shall be thoroughly cleaned before they are loaded with packages containing ORGANIC PEROXIDES.

(2) Packages containing ORGANIC PEROXIDES shall be so loaded that a free circulation of air within the loading space ensures the uniform temperature of the load.

(3) Where the contents of a container or wagon exceed 5000 kg of ORGANIC PEROXIDES in packages, the load shall be divided into stacks of not more than 5000 kg separated by air spaces of at least 0.05 m.

**Toxic substances (classification code 6.1)**

7.—(1) Where a container or wagon has been used for the carriage of TOXIC SUBSTANCES in packages it shall be checked after unloading for any signs of spillage or leakage of those goods.

(2) Where packages containing TOXIC SUBSTANCES have leaked and been spilled in a container or wagon—

- (a) all other goods and articles carried therein at the time of the leakage or spillage shall be examined for possible contamination; and
- (b) the container or wagon concerned shall not be re-used until after it has been thoroughly cleaned and, if necessary, decontaminated.

**Infectious substances (classification code 6.2)**

8.—(1) Packages containing INFECTIOUS SUBSTANCES shall be stowed in such a way as to be easily accessible.

(2) Where packages containing INFECTIOUS SUBSTANCES are being carried in a container or wagon they shall be kept apart from foodstuffs, other articles of consumption and animal feeding stuffs.

**Corrosive substances (classification code 8)**

9.—(1) Containers and wagons shall be thoroughly cleaned and in particular be free of all combustible debris before they are loaded with packages containing any of the following goods—

UN 1796 NITRATING ACID MIXTURE with more than 50% Nitric Acid

UN 1802 PERCHLORIC ACID

UN 1826 NITRATING ACID MIXTURE, SPENT WITH MORE THAN 50% NITRIC ACID

UN 2032 NITRIC ACID, RED FUMING

UN 3084 CORROSIVE SOLID, OXIDIZING, N.O.S.

UN 3093 CORROSIVE LIQUID, OXIDIZING, N.O.S.

(2) The use of combustible materials for stowing packages containing any of the goods listed in sub-paragraph (1) above is prohibited.

**Miscellaneous dangerous substances and articles (classification code 9)**

10.—(1) Where packages containing miscellaneous substances or articles are being carried in a container or wagon they shall be kept apart from foodstuffs, other articles of consumption and animal feedstuffs.

(2) Packages containing the goods UN 3245 GENETICALLY MODIFIED MICRO-ORGANISMS shall be stowed in such a way as to be readily accessible.

- (a) (3) (a) Where a container or wagon has been used for the carriage of MISCELLANEOUS DANGEROUS SUBSTANCES OR ARTICLES in packages as a full wagon load it shall be checked after unloading for any signs of spillage or leakage of those goods; and
- (b) where a spillage or leakage of the kind referred to in paragraph (a) above has occurred, the container or wagon concerned shall not be re-used until after it has been thoroughly cleaned and, if necessary, decontaminated.

**PART II**

**EMPTY, UNCLEARED PACKAGINGS**

**Flammable solids (classification code 4.1)**

11.—(1) Empty, uncleaned packagings, (including intermediate bulk containers), which contain the residues of any of the following goods shall not be accepted for carriage unless those residues are so packed that the content of water or other phlegmatizers added to them to render them inert cannot diminish.

UN 1310 AMMONIUM PICRATE, WETTED, with not less than 10% (mass) water

UN 1320 DINITROPHENOL, WETTED, with not less than 15% (mass) water

UN 1321 DINITROPHENOLATES, WETTED, with not less than 15% (mass) water

UN 1322 DINITRORESORCINOL, WETTED, with not less than 15% (mass) water

UN 1326 HAFNIUM POWDER, WETTED, with not less than 25% (mass) water

UN 1336 NITROGUANIDINE (PICRITE), WETTED, with not less than 20% (mass) water

UN 1337 NITROSTARCH, WETTED, with not less than 20% (mass) water

UN 1344 TRINITROPHENOL, WETTED, with not less than 30% (mass) water

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- UN 1347 SILVER PICRATE, WETTED, with not less than 30% (mass) water
- UN 1348 SODIUM DINITRO-o-CRESOLATE, WETTED, with not less than 15% (mass) water
- UN 1349 SODIUM PICRAMATE, WETTED, with not less than 20% (mass) water
- UN 1352 TITANIUM POWDER, WETTED, with not less than 25% (mass) water
- UN 1354 TRINITROBENZENE, WETTED, with not less than 30% (mass) water
- UN 1355 TRINITROBENZOIC ACID, WETTED, with not less than 30% (mass) water
- UN 1356 TRINITROTOLUENE, WETTED, with not less than 30% (mass) water
- UN 1357 UREA NITRATE, WETTED, with not less than 20% (mass) water
- UN 1358 ZIRCONIUM POWDER, WETTED, with not less than 25% (mass) water
- UN 1517 ZIRCONIUM PICRAMATE, WETTED, with not less than 20% (mass) water
- UN 1571 BARIUM AZIDE, WETTED, with not less than 50% (mass) water
- UN 2555 NITROCELLULOSE, with not less than 25% (mass) water
- UN 2556 NITROCELLULOSE, with not less than 25% (mass) alcohol and not more than 12.6% nitrogen by dry mass
- UN 2557 NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass
- UN 2852 DIPICRYL SULPHIDE, WETTED, with not less than 10% (mass) water
- UN 2907 ISOSORBIDE DINITRATE MIXTURE, with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate or with other phlegmatizers, provided that such phlegmatizers have inerting properties which are at least as effective

(2) Empty, uncleaned packagings which contain the residues of any of the following goods shall not be accepted for carriage unless steps have been taken to prevent their dangerous decomposition—

- UN 3221 SELF-REACTIVE LIQUID TYPE B
- UN 3222 SELF-REACTIVE SOLID TYPE B
- UN 3223 SELF-REACTIVE LIQUID TYPE C
- UN 3224 SELF-REACTIVE SOLID TYPE C
- UN 3225 SELF-REACTIVE LIQUID TYPE D
- UN 3226 SELF-REACTIVE SOLID TYPE D
- UN 3227 SELF-REACTIVE LIQUID TYPE E
- UN 3228 SELF-REACTIVE SOLID TYPE E
- UN 3229 SELF-REACTIVE LIQUID TYPE F
- UN 3230 SELF-REACTIVE SOLID TYPE F

#### **Toxic substances (classification code 6.1)**

**12.** Empty, uncleaned packagings, (comprising bags or flexible intermediate bulk containers), which contain the residues of any TOXIC SUBSTANCES shall be placed in boxes or waterproof bags to prevent any leakage of those residues during carriage.

#### **Miscellaneous dangerous substances and articles (classification code 9)**

**13.** Empty, uncleaned packagings (comprising bags) which contain the residues of any MISCELLANEOUS DANGEROUS SUBSTANCES OR ARTICLES shall be placed in boxes or waterproof bags to prevent any leakage of those residues during carriage.