# 1978 No. 1702

# HEALTH AND SAFETY

## Hazardous Substances (Labelling of Road Tankers) Regulations 1978

*Made* - - - *27th November* 1978

*Laid before Parliament* *28th November* 1978

*Coming into Operation* *28th March* 1979

ARRANGEMENT OF REGULATIONS

The Secretary of State for Transport, in the exercise of the powers conferred on him by section 15(1), (2), (3), (4), (5) and (6) of, and paragraphs 1(4) and 3 of Schedule 3 to, the Health and Safety at Work etc. Act 1974(**a**) ("the 1974 Act") as amended by section 116 of, and paragraph 6 of Schedule 15 to, the Employment Protection Act 1975(**b**) and of all other enabling powers and for the purpose of giving effect with modifications to proposals submitted to him by the Health and Safety Commission under section 11(2)(*d*) of the 1974 Act after the carrying out by the said Commission of consultations in accordance with section 50(3) of that Act and after consulting with the said Commission in accordance with section 50(2) of that Act, hereby makes the following Regulations:—

*Citation and commencement*

**1.** These Regulations may be cited as the Hazardous Substances (Labelling of Road Tankers) Regulations 1978 and shall come into operation on 28th March 1979.

*Interpretation*

**2.**—(1) In these Regulations unless the context otherwise requires—

"emergency action code", in relation to a prescribed hazardous substance, means the code specified in column 3 of Part I of Schedule 1 opposite to the substance name and substance identification number in columns 1 and 2 respectively of that Part, or, in a case where the substance is also specified in column 1 of Part II of Schedule 1, the alternative code specified in column 3 of the said Part II opposite to the substance name and alternative substance identification number in columns 1 and 2 respectively of that Part (the general significance of the letters and numbers which constitute the codes specified in Parts I and II of Schedule 1 being indicated in Part III of that Schedule), and "multi-load emergency action code" means an emergency action code for a multi-load ascertained in accordance with Schedule 2;

"hazard warning", in relation to a prescribed hazardous substance, means the warning specified in column 4 of Part I of Schedule 1 opposite the substance name and substance identification number in columns 1 and 2 respectively of that Part; and "hazard warning sign" means the sign specified, in relation to a hazard warning, in Schedule 3;

"multi-load" means a load consisting of two or more prescribed hazardous substances in separate compartments or tanks (whether or not a substance which is not a prescribed hazardous substance is being conveyed at the same time);

"operator" means in relation to any vehicle—

(*a*) the person who holds or is required by section 60 of the Transport Act 1968(**c**) to hold an operator's licence for the use of that vehicle for the carriage of goods on a road; or

(*b*) where no such operator's licence is required, the keeper of the vehicle;

"prescribed hazardous substance" means a substance specified in column 1 of Part I of Schedule 1;

"road" means a road within the meaning of section 196(1) of the Road Traffic Act 1972(**d**);

"road tanker" means a goods vehicle within the meaning of section 92 of the Transport Act 1968 which has a tank which forms part of or is

(**a**) 1974 c. 37. (**b**) 1975 c. 71. (**c**) 1968 c. 73. (**d**) 1972 c. 20.

permanently attached to it, other than a tank used solely for the operation of the vehicle as a means of transport;

"single load" means a load consisting of only one prescribed hazardous substance (whether or not a substance which is not a prescribed hazardous substance is being conveyed at the same time);

"substance identification number", in relation to a prescribed hazardous substance, means the number specified in column 2 of Part I of Schedule 1 opposite the name of the substance in column 1 of that Part, or, in a case where the substance is also specified in column 1 of Part II of Schedule 1, the alternative substance identification number specified in column 2 of the said Part II opposite the name of the substance.

(2) Any reference in these Regulations to a numbered Regulation or Schedule is a reference to the Regulation of, or Schedule to, these Regulations bearing that number.

(3) The Interpretation Act 1889(**a**) shall apply for the interpretation of these Regulations as it applies for the interpretation of an Act of Parliament.

*Application of the Regulations*

**3.**—(1) These Regulations apply for securing the labelling of road tankers used for the conveyance by road of a prescribed hazardous substance in all cases where such tankers are used for the conveyance by road of any such substance, except—

(*a*) where the substance is carried in a tank which forms part of or is permanently attached to a vehicle and is used solely for the operation of that vehicle as a means of transport; or

(*b*) where the road tanker is being used solely for conveying a prescribed hazardous substance from—

(i) another road tanker which has been damaged as a result of an accident occurring on a road, or has broken down on a road, or

(ii) a rail tanker which has been damaged or derailed or has broken down on a railway other than a siding on which it was loaded,

and the road tanker is being escorted by a vehicle used for police or fire service purposes; or

(*c*) where the road tanker—

(i) complies in every respect with the requirements relating to vehicles of that type contained in Annex B to the European Agreement concerning the International Carriage of Dangerous Goods by Road, signed at Geneva on the 30th September 1957(**b**) as revised or re-issued from time to time, and

(ii) is certified pursuant to that Agreement as complying with it, and

(iii) is engaged on an international transport operation within the meaning of that Agreement.

(2) For the purposes of these Regulations a road tanker shall be deemed to be used for the conveyance by road of a prescribed hazardous substance throughout the period from the commencement of loading for the purpose of conveying that substance by road until the tank or compartment used for that purpose has been cleaned or purged so that it is free from the substance and its vapour, whether or not it is at the material time on a road.

(**a**) 1889 c. 63. (**b**) Cmnd. 734, Cmnd. 3769.

*Particulars to be displayed on road tankers used for the conveyance of a single load*

**4.**—(1) Where a road tanker is being used for the conveyance by road of a single load in circumstances in which these Regulations apply, the operator of that road tanker shall ensure, so far as is reasonably practicable, that it is provided with and displays hazard warning panels in accordance with Regulation 5 and paragraphs 1 to 3 and 5 of Part I and Part II of Schedule 4; and those panels shall show the following particulars:—

(*a*) the emergency action code for the substance which constitutes the load;

(*b*) the substance identification number for that substance;

(*c*) the appropriate hazard warning sign; and

(*d*) the telephone number or other text approved by the Health and Safety Executive indicating where specialist advice can be obtained at all times.

(2) The following additional information may be incorporated in the hazard warning panel—

(*a*) the name (or one of the names) of the prescribed hazardous substance as specified in column 1 of Schedule 1 which constitutes the load, and, if that name is included, the trade name of the substance, and

(*b*) the name of the manufacturer or owner of that substance, his house symbol or both,

and, if so incorporated, such information shall comply with the provisions of Schedule 4.

*Composition, position, maintenance and removal of hazard warning panels for single loads*

**5.**—(1) The hazard warning panels provided in accordance with Regulation 4(1) shall be three in number, one at the rear of the vehicle and one on either side of the vehicle.

(2) Each hazard warning panel shall be—

(*a*) weather resistant and indelibly marked on only one side in accordance with the specification in paragraphs 1 to 3 of Part I and Part II of Schedule 4;

(*b*) either rigid or fixed or attached so as to become rigid;

(*c*) in the case of a side panel, securely attached in a substantially vertical plane to the tank or to the vehicle either directly or by means of a suitable frame, with—

(i) its forward edge as close as is practicable to the front of the tank, and

(ii) its lower edge at least one metre from the ground;

(*d*) in the case of a rear panel, securely attached—

(i) in a substantially vertical plane to the tank or to the vehicle either directly or by means of a suitable frame, or where the construction of the vehicle is such that this is not practicable, in some other manner so as to be clearly visible, and

(ii) with its lower edge at least one metre from the ground.

(3) Hazard warning panels shall be kept clean and free from obstruction, except that a rear panel may be mounted behind a ladder of light construction which does not prevent the information thereon from being easily read.

(4) Where a road tanker has had its tank emptied and cleaned or purged so as to be free from the prescribed hazardous substance or its vapour, the operator shall ensure, so far as is reasonably practicable, that the hazard warning panels are either—

(*a*) completely covered or completely removed; or

(*b*) partly covered or partly removed so as to leave visible only the telephone number or other text required by Regulation 4(1)(*d*).

*Particulars to be displayed on road tankers used for the conveyance of multi-loads*

**6.**—(1) Where a road tanker is being used for the conveyance by road of a multi-load in circumstances in which these Regulations apply then, subject to paragraph (4) of this Regulation, the operator of that road tanker shall ensure, so far as is reasonably practicable, that it is provided with and displays hazard warning panels in accordance with Regulation 7 and paragraphs 1, 2, 4 and 5 of Part I and Part II of Schedule 4; and those panels shall show the following particulars:—

(*a*) the appropriate multi-load emergency action code;

(*b*) the word "multi-load";

(*c*) the appropriate hazard warning sign; and

(*d*) the telephone number or other text approved by the Health and Safety Executive indicating where specialist advice can be obtained at all times.

(2) The name of the manufacturer or owner of the substance, his house symbol or both may be incorporated if so desired, and if so incorporated shall comply with the provisions of Schedule 4.

(3) In addition to the requirements of paragraph (1) of this Regulation, the operator shall ensure, so far as is reasonably practicable, that each tank on, or compartment of a tank on, the vehicle containing a prescribed hazardous substance is labelled with compartment labels in accordance with Regulation 7 and paragraphs 6 to 9 of Part I and Part II of Schedule 4; and those labels shall show the following particulars:—

(*a*) the appropriate substance identification number for the substance and, if desired, the name (or one of the names) of the substance as specified in column 1 of Part I of Schedule 1 and, if that name is included, the trade name of the substance may also be included; and

(*b*) where any other tank or compartment contains a prescribed hazardous substance of a different hazard, the appropriate hazard warning sign.

(4) Where, by virtue of paragraph 4 of Schedule 2, a road tanker is being treated as conveying a single load, this Regulation and Regulation 7 shall not apply, but Regulations 4 and 5 shall apply with the modification that the substance identification number and the emergency action code shall be ascertained from the said paragraph 4.

*Composition, position, maintenance and removal of hazard warning panels and compartment labels for multi-loads*

7.—(1) The hazard warning panels provided in accordance with Regulation 6(1) shall be three in number, one at the rear of the vehicle and one on either side of the vehicle and each such panel shall be—

(*a*) weather resistant and indelibly marked, on one side only, in accordance with the specification in paragraphs 1, 2 and 4 of Part I and Part II of Schedule 4; and

(*b*) either rigid or fixed or attached so as to become rigid.

(2) Each side panel shall be securely attached to the tank or to the vehicle in a substantially vertical plane either directly or by means of a suitable frame with—

(*a*) its forward edge as close as is practicable to the front of the tank or, if there is more than one tank on the vehicle, to the front of the foremost tank; and

(*b*) its lower edge at least one metre from the ground.

(3) The rear panel shall be securely attached—

(*a*) in a substantially vertical plane, to the tank or to the vehicle either directly or by means of a suitable frame or, where the construction of the vehicle is such that this is not practicable, securely attached in such a manner as to be clearly visible;

(*b*) with its lower edge at least one metre from the ground.

(4) The compartment labels provided in accordance with Regulation 6(3) shall be two in number, one on either side of the vehicle, and each such label shall be—

(*a*) weather resistant and indelibly marked, on one side only, in accordance with the specification in paragraphs 6 to 9 of Part I and Part II of Schedule 4, and

(*b*) either rigid or fixed or attached so as to become rigid.

(5) Each compartment label shall be securely attached to the tank or to the vehicle in a substantially vertical plane either directly or by means of a suitable frame as close as is practicable to a position midway between the front and the rear of the compartment or tank.

(6) Hazard warning panels and compartment labels shall be kept clean and free from obstruction, except that a rear panel may be mounted behind a ladder of light construction which does not prevent the information thereon from being easily read.

(7) Where a road tanker—

(*a*) has had one or more of its compartments, or in the case of separate tanks, one or more of its tanks, emptied and cleaned or purged so as to be free from a prescribed hazardous substance or its vapour, the operator shall ensure, so far as is reasonably practicable, that—

(i) the compartment label referring to such compartment or tank is completely covered or completely removed, and

(ii) the hazard warning panels are changed to those appropriate for the load for the time being carried, whether that load be a single load or a multi-load;

(*b*) has had all its compartments or tanks emptied and cleaned or purged so as to be free from any prescribed hazardous substance or its vapour, the operator shall ensure, so far as is reasonably practicable, that the hazard warning panels are either—

(i) completely covered or completely removed; or

(ii) partly covered or partly removed so as to leave visible only the telephone number or other approved text required by Regulation 6(1)(*d*).

*Duty of the consignor of a prescribed hazardous substance*

**8.** The consignor of any prescribed hazardous substance or other person requiring such a substance to be conveyed by road shall ensure that the operator has such information as is necessary to enable him to prepare the appropriate hazard warning panels and compartment labels in accordance with these Regulations.

*Duty of the operator of a road tanker to instruct driver*

**9.** The operator of a road tanker which is to be used for the conveyance by road of a prescribed hazardous substance shall ensure that the driver is adequately instructed as to the significance of the hazard warning panels and compartment labels required to be displayed during conveyance and as to his duty under Regulation 10.

*Duty of the driver of a road tanker*

**10.** The driver of a road tanker which is being used for the conveyance by road of a prescribed hazardous substance in circumstances to which these Regulations apply shall ensure, so far as is reasonably practicable, that all hazard warning panels and compartment labels are displayed on the road tanker at all times when required by these Regulations and that they are kept clean and, subject to Regulations 5(3) and 7(6), free from obstruction.

*Labelling under these Regulations to satisfy the requirements of certain statutory provisions*

**11.** Where a prescribed hazardous substance is conveyed by road and the road tanker is labelled in accordance with these Regulations, that labelling shall be a sufficient compliance with any provision of—

(*a*) section 5 of the Petroleum (Consolidation) Act 1928(**a**), and

(*b*) any Regulation made under section 6 of that Act,

in so far as that provision relates to labelling of vehicles of that type for the conveyance by road of that substance; and that section and any such Regulation shall be modified accordingly.

*Exemption certificates*

**12.**—(1) Subject to paragraph (2) of this Regulation, the Health and Safety Executive may, by certificate in writing, exempt any person, class of person, road tanker or class of road tanker from all or any of the requirements of these Regulations in respect of any prescribed hazardous substance or class of prescribed hazardous substances; and any such exemption may be granted subject to conditions and to a limit of time and may be revoked at any time.

(**a**) 1928 c. 32.

(2) The Executive shall not grant any such exemption unless it is satisfied that, having regard to any conditions it may attach to the exemption and to any legal obligations which would also apply, the health and safety of persons who are likely to be affected by the exemption will not be prejudiced by it.

*Enforcement*

**13.** The authority responsible for the enforcement of these Regulations in relation to a road tanker shall be—

(*a*) in a case where the road tanker is on a road, the Chief Officer of Police for the area in which the road is situated; or

(*b*) in any other case, the Health and Safety Executive.

*William Rodgers,*
27th November 1978. Secretary of State for Transport.

SCHEDULE 1 *Regulations 2(1), 4(2) and 6(3)*

PART I

LIST OF PRESCRIBED HAZARDOUS SUBSTANCES WITH THE SUBSTANCE IDENTIFICATION NUMBERS, EMERGENCY ACTION CODES AND HAZARD WARNINGS TO BE USED WITH THEM

In this Part, "n.o.s." where it appears in column 1 means not otherwise specified; and column 3 shall be interpreted in accordance with Part III.

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Acetal ... ... ... ... ... | 1088 | 3 Y E | Flammable liquid |
| Acetaldehyde (Aldehyde) ... ... | 1089 | 2YE | Flammable liquid |
| Acetic acid, glacial and over 90% by weight | 1842 | 2P | Flammable liquid |
| Acetic anhydride ... ... ... | 1715 | 2P | Corrosive substance |
| Acetone ... ... ... ... | 1090 | 2 Y E | Flammable liquid |
| Acetone cyanohydrin ... ... | 1541 | 2XE | Toxic substance |
| Acetyl bromide ... ... ... | 1716 | 4WE | Corrosive substance |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Acetyl chloride ... ... ... | 1717 | 4WE | Corrosive substance |
| Acid mixtures, nitrating acid ... | 1796 | 4WE | Corrosive substance |
| Acrolein dimer, stabilized (2-Formyl-3, 4-dihydro-2H pyran) | 2607 | 2 S | Flammable liquid |
| Acrylamide ... ... ... ... | 2074 | 2PE | Harmful substance |
| Acrylic acid, inhibited ... ... | 2218 | 2P | Corrosive substance |
| Acrylonitrile, inhibited ... ... | 1093 | 3WE | Flammable liquid |
| Adiponitrile (1, 4-Dicyanobutane, Tetramethylene cyanide) | 2205 | 3X | Harmful substance |
| Air, refrigerated liquid ... ... | 1003 | 2P | Non-flammable compressed gas |
| Alcohol, denatured (Methylated spirit) | 1095 | 2 S E | Flammable liquid |
| Alcohol, industrial ... ... ... | 1096 | 2 S E | Flammable liquid |
| Allyl acetate ... ... ... ... | 2333 | 3WE | Flammable liquid |
| Allyl alcohol ... ... ... | 1098 | 2PE | Flammable liquid |
| Allylamine ... ... ... ... | 2334 | 2WE | Flammable liquid |
| Allyl bromide ... ... ... ... | 1099 | 2WE | Flammable liquid |
| Allyl chloride (3-Chloropropene) ... | 1100 | 3WE | Flammable liquid |
| Allyl chloroformate ... ... ... | 1722 | 2WE | Corrosive substance |
| Allyl glycidyl ether ... ... ... | 2219 | 2S | Flammable liquid |
| Allyl iodide ... ... ... ... | 1723 | 2WE | Corrosive substance |
| Ammonia, anhydrous, liquefied and ammonia solutions having a density (specific gravity) of less than 0·880 at 15°C in water, containing over 50% ammonia | 1005 | 2PE | Toxic gas |
| Ammonia solutions having a density (specific gravity) of less than 0·880 at 15°C in water containing more than 35% and not above 50% ammonia | 2073 | 2PE | Toxic gas |
| Amyl acetates ... ... ... | 1104 | 3 Y | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Amyl alcohols ... ... ... | 1105 | 3 Y | Flammable liquid |
| Amylene, normal (1-Pentene) ... | 1108 | 3 Y E | Flammable liquid |
| Amyl formates ... ... ... | 1109 | 3 Y | Flammable liquid |
| Amyl mercaptan ... ... ... | 1111 | 3WE | Flammable liquid |
| Aniline (Aniline oil, Phenylamine, Aminobenzene) | 1547 | 3X | Toxic substance |
| *ortho*-Anisidine ... ... ... | 2431 | 3X | Harmful substance |
| Anisole ... ... ... ... | 2222 | 3Y | Flammable liquid |
| Benzaldehyde ... ... ... | 1990 | 3 Z | Flammable liquid |
| Benzene (Benzol) ... ... ... | 1114 | 3WE | Flammable liquid |
| Boron triflouride diethyl etherate ... | 2604 | 4WE | Flammable liquid |
| Bromine and solutions of bromine ... | 1744 | 2XE | Corrosive substance |
| Bromobenzene ... ... ... | 2514 | 2 Z | Flammable liquid |
| Butadiene, inhibited ... ... ... | 1010 | 2WE | Flammable gas |
| Butane or butane mixtures ... ... | 1011 | 2WE | Flammable gas |
| Butanedione ... ... ... ... | 2346 | 2 S | Flammable liquid |
| Butanol (Butyl alcohol) ... ... | 1120 | 3 Y | Flammable liquid |
| secondary Butanol (secondary Butyl alcohol) | 1121 | 2 S | Flammable liquid |
| tertiary Butanol (tertiary Butyl alcohol) | 1122 | 2 S E | Flammable liquid |
| Butyl acetate, normal ... ... | 1123 | 3 Y | Flammable liquid |
| secondary Butyl acetate ... ... | 1124 | 3 Y E | Flammable liquid |
| Butylacrylate ... ... ... ... | 2348 | 3 Y | Flammable liquid |
| Butylamine, normal ... ... ... | 1125 | 2WE | Flammable liquid |
| Butyl benzene (2-Methyl-2-phenylpropane; 1-Phenylbutane; 2-Phenylbutane) | 2709 | 3 Y | Flammable liquid |
| Butyl bromide, normal ... ... | 1126 | 2 Y E | Flammabe liquid |
| Butylene (Butene) ... ... ... | 1012 | 2WE | Flammable gas |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Butyl formate, normal ... ... | 1128 | 3 Y E | Flammable liquid |
| *n*-Butyl methacrylate ... ... ... | 2227 | 3 Y | Flammable liquid |
| Butyl nitrite ... ... ... ... | 2351 | 3 Y E | Flammable liquid |
| Butyl toluenes (*p-tert*-Butyltoluene) ... | 2667 | 3 Z | Harmful substance |
| Butyltrichlorosilane ... ... ... | 1747 | 4WE | Corrosive substance |
| Butyl vinyl ether ... ... ... | 2352 | 3 Y E | Flammable liquid |
| Butyraldehyde ... ... ... | 1129 | 3WE | Flammable liquid |
| Butyronitrile ... ... ... ... | 2411 | 3WE | Flammable liquid |
| Caesium hydroxide solution ... | 2681 | 2R | Corrosive substance |
| Calcium carbide (Carbide of calcium) | 1402 | 4Y | Substance which in contact with water emits flammable gases |
| Calcium chlorate, solution ... ... | 2429 | 2S | Oxidizing substance |
| Camphor oil ... ... ... ... | 1130 | 3 Y | Flammable liquid |
| Carbon dioxide (Carbonic anhydride) refrigerated liquid | 2187 | 2XE | Non-flammable compressed gas |
| Carbon disulphide (Carbon bisulphide) | 1131 | 3WE | Flammable liquid |
| Carbon tetrachloride ... ... ... | 1846 | 2Z | Toxic substance |
| Caustic alkali liquids, n.o.s. ... ... | 1719 | 2R | Corrosive substance |
| Chlorine ... ... ... ... | 1017 | 2XE | Toxic gas |
| Chloroacetic acid (Monochloroacetic acid), liquid | 1750 | 2R | Corrosive substance |
| Chloroanilines, liquid ... ... | 2019 | 2X | Toxic substance |
| Chlorobenzene (Monochlorobenzene) | 1134 | 2Y | Flammable liquid |
| Chlorobutanes (1-Chlorobutane, Butyl chloride normal, 2-Chlorobutane) | 1127 | 3 Y E | Flammable liquid |
| Chlorodinitrobenzene (Dinitrochlorobenzene) | 1577 | 2W | Toxic substance |
| Chloroform ... ... ... ... | 1888 | 2Z | Toxic substance |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Chloronitrobenzenes ... ... ... | 1578 | 2X | Toxic substance |
| Chloro-*ortho*-nitrotoluene ... ... | 2433 | 2X | Harmful substance |
| Chlorophenates (Chlorophenols), liquid | 2021 | 2X | Harmful substance |
| Chloroprene, inhibited ... ... | 1991 | 3WE | Flammable liquid |
| Chlorosulphonic acid (with or without sulphur trioxide) | 1754 | 4WE | Corrosive substance |
| Chlorotoluenes ... ... ... | 2238 | 3 Y | Flammable liquid |
| Chromic acid solution ... ... | 1755 | 2X | Corrosive substance |
| Cresols (*meta*-, *ortho*-, and *para*-) ... | 2076 | 2X | Toxic substance |
| Cresylic acid ... ... ... ... | 2022 | 2X | Toxic substance |
| Crotonaldehyde, (*beta*-Methyl acrolein, 2-Butenal, Crotonic aldehyde), stabilized | 1143 | 2WE | Flammable liquid |
| Crotonylene ... ... ... ... | 1144 | 3 Y E | Flammable liquid |
| Cyanide solutions ... ... ... | 1935 | 2X | Toxic substance |
| Cyclohexanone ... ... ... | 1915 | 3 Y | Flammable liquid |
| Cyclohexene ... ... ... ... | 2256 | 3 Y E | Flammable liquid |
| Cyclohexylamine ... ... ... | 2357 | 3WE | Flammable liquid |
| Cyclopentane ... ... ... ... | 1146 | 3 Y E | Flammable liquid |
| Cyclopentanol ... ... ... | 2244 | 3 Y | Flammable liquid |
| Cyclopentanone ... ... ... | 2245 | 3 Y | Flammable liquid |
| Cyclopentene ... ... ... ... | 2246 | 3 Y E | Flammable liquid |
| Cyclopropane, liquefied ... ... | 1027 | 2WE | Flammable gas |
| Decahydronaphthalene (Decalin) ... | 1147 | 3 Z | Flammable liquid |
| *n*-Decane ... ... ... ... | 2247 | 3 Y | Flammable liquid |
| Diacetone alcohol ... ... ... | 1148 | 2 S E | Flammable liquid |
| Dibutyl ethers (Butyl ethers) ... | 1149 | 3 Y | Flammable liquid |
| Dichloroacetic acid ... ... ... | 1764 | 2R | Corrosive substance |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Dichloroacetyl chloride ... ... | 1765 | 4WE | Corrosive substance |
| *o*-Dichlorobenzene (Orthodichlorobenzene) | 1591 | 2Z | Harmful substance |
| Dichloroethylene ... ... ... | 1150 | 3 Y E | Flammable liquid |
| Dichloroethyl ether ... ... ... | 1916 | 2W | Flammable liquid |
| Dichloromethane (Methylene chloride) | 1593 | 2Z | Harmful substance |
| 1, 2-Diethoxyethane (Ethylene glycol diethyl ether) | 1153 | 3 Y | Flammable liquid |
| Diethylamine ... ... ... ... | 1154 | 2WE | Flammable liquid |
| Diethylaminoethanol (N, N-Diethyl ethanolamine) | 2686 | 2S | Flammable liquid |
| N, N-Diethyl aniline ... ... ... | 2432 | 3X | Harmful substance |
| Diethylbenzene ... ... ... | 2049 | 3 Y | Flammable liquid |
| Diethylcarbinol (3-Pentanol) ... | 2706 | 3 Y | Flammable liquid |
| Diethyl ether (Ethyl ether, Anaesthetic ether, Sulphuric ether) | 1155 | 3YE | Flammable liquid |
| Diethyl ketone ... ... ... | 1156 | 3 Y E | Flammable liquid |
| Diethyl sulphate (Ethyl sulphate) ... | 1594 | 2X | Toxic substance |
| Diisobutylene, isomeric compounds (*alpha*-Diisobutylene; *beta*-Diisobutylene; 2, 4, 4-Trimethylpentene-1; 2, 4, 4-Trimethylpentene-2) | 2050 | 3 Y E | Flammable liquid |
| Diisobutyl ketone ... ... ... | 1157 | 3 Y | Flammable liquid |
| Diisopropylamine ... ... ... | 1158 | 3WE | Flammable liquid |
| Diisopropyl ether ... ... ... | 1159 | 3 Y E | Flammable liquid |
| Diketene, inhibited ... ... ... | 2521 | 2 S | Flammable liquid |
| 1, 2-Dimethoxyethane ... ... | 2252 | 2 S E | Flammable liquid |
| Dimethylamine solution ... ... | 1160 | 2P | Flammable liquid |
| 2, 3-Dimethylbutane ... ... | 2457 | 3 Y E | Flammable liquid |
| Dimethyl carbonate ... ... ... | 1161 | 3YE | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Dimethylcyclohexanes ... ... | 2263 | 3 Y E | Flammable liquid |
| Dimethylcyclohexylamine ... ... | 2264 | 3W | Corrosive substance |
| Dimethyldichlorosilane ... ... | 1162 | 4WE | Flammable liquid |
| Dimethylethanolamine (Deanol, 2-Dimethylaminoethanol) | 2051 | 2S | Flammable liquid |
| N, N-Dimethylformamide ... ... | 2265 | 2P | Harmful substance |
| Dimethyl sulphate (Methyl sulphate) | 1595 | 2XE | Toxic substance |
| Dinitrobenzenes ... ... ... | 1597 | 2W | Toxic substance |
| Dinitrotoluenes, liquid ... ... | 1600 | 2W | Toxic substance |
| Dioxane ... ... ... ... | 1165 | 2SE | Flammable liquid |
| Dioxolane ... ... ... ... | 1166 | 2PE | Flammable liquid |
| Dipentene (Cajeputene; Cinene; *de-para*-mentha-1, 8-diene; Limonene, inactive) | 2052 | 3 Y | Flammable liquid |
| Diquat ... ... ... ... | 7003 | 2R | Toxic substance |
| Divinyl ether ... ... ... ... | 1167 | 3YE | Flammable liquid |
| Epichlorohydrin ... ... ... | 2023 | 2W | Toxic substance |
| Ethane, refrigerated liquid ... ... | 1961 | 2WE | Flammable gas |
| Ethanol (Ethyl alcohol) ... ... | 1170 | 2 S E | Flammable liquid |
| Ethanolamine and solutions thereof... | 2491 | 2T | Corrosive substance |
| 2-Ethoxyethanol (Ethylene glycol monoethyl ether) | 1171 | 2S | Flammable liquid |
| 2-Ethoxyethyl acetate (Ethylene glycol monoethyl ether acetate, Ethylglycol acetate) | 1172 | 2 S | Flammable liquid |
| Ethyl acetate ... ... ... ... | 1173 | 3 Y E | Flammable liquid |
| Ethyl acrylate, inhibited ... ... | 1917 | 3WE | Flammable liquid |
| Ethylamine (Mono-ethylamine) ... | 1036 | 2PE | Flammable gas |
| Ethylamine 50–70% solution in water | 2270 | 2PE | Flammable liquid |
| Ethyl amyl ketone ... ... ... | 2271 | 3 Y | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Ethylbenzene ... ... ... | 1175 | 3 Y E | Flammable liquid |
| Ethyl borate (Triethyl borate) ... | 1176 | 2 S E | Flammable liquid |
| 2-Ethylbutanol ... ... ... | 2275 | 3 Y | Flammable liquid |
| Ethyl butyl ether (Butyl ethyl ether) | 1179 | 3 Y E | Flammable liquid |
| Ethyl butyrate ... ... ... | 1180 | 3 Y | Flammable liquid |
| Ethylene, refrigerated liquid ... | 1038 | 2WE | Flammable gas |
| Ethylene chlorohydrin ... ... | 1135 | 2W | Toxic substance |
| Ethylenediamine(1,2-Diaminoethane) | 1604 | 2P | Corrosive substance |
| Ethylene dibromide ... ... ... | 1605 | 2X | Toxic substance |
| Ethylene dichloride (1,2-Dichloroethane) | 1184 | 2YE | Flammable liquid |
| Ethylene glycol monomethyl ether acetate | 1189 | 2 S | Flammable liquid |
| Ethylene oxide (Oxirane, Epoxyethane) containing not more than 0·2% nitrogen | 1040 | 2PE | Flammable gas |
| Ethyl formate ... ... ... ... | 1190 | 3YE | Flammable liquid |
| Ethyl lactate ... ... ... ... | 1192 | 3 Y | Flammable liquid |
| Ethyl methacrylate ... ... ... | 2277 | 3 Y E | Flammable liquid |
| Ethyl methyl ether ... ... ... | 1039 | 2PE | Flammable gas |
| Ethyl methyl ketone (Methyl ethyl ketone, Butanone) | 1193 | 2 Y E | Flammable liquid |
| Ethyl propionate ... ... ... | 1195 | 3 Y E | Flammable liquid |
| Ethyl propyl ether (Ethoxy propane-1) | 2615 | 3 Y E | Flammable liquid |
| Fluoboric acid (Hydrofluoboric acid) | 1775 | 2X | Corrosive substance |
| Fluosilicic acid (Silicofluoric acid, Hydrosilicofluoric acid, Hydrofluosilicic acid, Sand acid) | 1778 | 2X | Corrosive substance |
| Formaldehyde solutions with a flash point not above 60·5°C | 1198 | 2SE | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Formaldehyde, solutions with a flash point above 60·5°C (Formalin, Formic aldehyde, Methanal) | 2209 | 2T | Other hazardous substance |
| Formic acid ... ... ... ... | 1779 | 2R | Corrosive substance |
| Furfural ... ... ... ... | 1199 | 2W | Flammable liquid |
| Fusel oil ... ... ... ... | 1201 | 3 Y | Flammable liquid |
| Gas oil ... ... ... ... | 1202 | 3 Z | Flammable liquid |
| Hazardous waste, liquid, containing acid | 7006 | 2WE | Other hazardous substance |
| Hazardous waste, solid or sludge, containing acid | 7007 | 2WE | Other hazardous substance |
| Hazardous waste, liquid, containing alkali | 7008 | 2WE | Other hazardous substance |
| Hazardous waste, solid or sludge, containing alkali | 7009 | 2WE | Other hazardous substance |
| Hazardous waste, flammable liquid, flash point below 23°C | 7010 | 3WE | Other hazardous substance |
| Hazardous waste, flammable liquid, flash point 23°C to 60·5°C | 7011 | 3W | Other hazardous substance |
| Hazardous waste, flammable, solid or sludge, n.o.s. | 7012 | 3WE | Other hazardous substance |
| Hazardous waste, solid or sludge, n.o.s. | 7014 | 2X | Other hazardous substance |
| Hazardous waste, liquid, n.o.s. ... | 7015 | 2X | Other hazardous substance |
| Hazardous waste, solid or sludge, toxic, n.o.s. | 7016 | 2X | Other hazardous substance |
| Hazardous waste, liquid, toxic, n.o.s. | 7017 | 2X | Other hazardous substance |
| Hazardous waste, liquid, containing inorganic cyanides | 7019 | 4X | Other hazardous substance |
| Hazardous waste, solid or sludge, agrochemicals, toxic, n.o.s. | 7020 | 4WE | Other hazardous substance |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Hazardous waste, liquid, agrochemicals, toxic, n.o.s. | 7021 | 4WE | Other hazardous substance |
| Hazardous waste, containing isocyanates, n.o.s. | 7022 | 4WE | Other hazardous substance |
| Hazardous waste, containing organolead compounds, n.o.s. | 7023 | 4WE | Other hazardous substance |
| Heptane and its isomers ... ... | 1206 | 3 Y E | Flammable liquid |
| *n*-Heptene ... ... ... ... | 2278 | 3 Y E | Flammable liquid |
| Hexadiene ... ... ... ... | 2458 | 3 Y E | Flammable liquid |
| Hexaldehyde ... ... ... ... | 1207 | 3 Y | Flammable liquid |
| Hexamethylenediamine solution ... | 1783 | 2R | Corrosive substance |
| Hexane and its isomers ... ... | 1208 | 3 Y E | Flammable liquid |
| Hexanols ... ... ... ... | 2282 | 3 Y | Flammable liquid |
| Hex-1-ene ... ... ... ... | 2370 | 3 Y E | Flammable liquid |
| Hydrazine, anhydrous and its aqueous solutions, containing more than 64%, by weight, hydrazine | 2029 | 2PE | Corrosive substance |
| Hydrazine hydrate and aqueous solutions of hydrazine, containing not more than 64%, by weight, hydrazine | 2030 | 2P | Corrosive substance |
| Hydrobromic acid (Hydrogen bromide solution) | 1788 | 2R | Corrosive substance |
| Hydrocarbon gases and mixtures of such gases, liquefied, n.o.s. | 1965 | 2WE | Flammable gas |
| Hydrochloric acid in solution (Muriatic acid, Spirits of salts) | 1789 | 2R | Corrosive substance |
| Hydrofluoric acid solution (Fluoric acid, Hydrogen fluoride solution) containing less than 60% hydrogen fluoride | 1790 | 2PE | Corrosive substance |
| Hydrofluoric acid solution (Fluoric acid, Hydrogen fluoride solution) containing 60% or more hydrogen fluoride | 1790 | 4WE | Corrosive substance |
| Hydrogen, refrigerated liquid ... | 1966 | 2WE | Flammable gas |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Hydrogen chloride, refrigerated liquid | 2186 | 2RE | Toxic gas |
| Hydrogen fluoride, anhydrous ... | 1052 | 4WE | Toxic gas |
| Hydrogen peroxide, aqueous solutions containing at least 8% and not more than 60% hydrogen peroxide (stabilized as necessary) | 2014 | 2P | Oxidizing substance |
| Hydrogen peroxide and its aqueous solutions, stabilized, containing more than 60% hydrogen peroxide | 2015 | 2PE | Oxidizing substance |
| Hypochlorite, solutions containing more than 5% available chlorine | 1791 | 2R | Corrosive substance |
| Isobutane and isobutane mixtures ... | 1969 | 2WE | Flammable gas |
| Isobutanol (Isobutyl alcohol) ... | 1212 | 3 Y | Flammable liquid |
| Isobutyl acetate ... ... ... | 1213 | 3 Y E | Flammable liquid |
| Isobutylamine ... ... ... | 1214 | 2WE | Flammable liquid |
| Isobutylene (Isobutene) ... ... | 1055 | 2WE | Flammable gas |
| Isobutyl methacrylate ... ... | 2283 | 3 Y | Flammable liquid |
| Isobutyraldehyde (Isobutyl aldehyde) | 2045 | 3WE | Flammable liquid |
| Isobutyronitrile ... ... ... | 2284 | 3WE | Flammable liquid |
| Isododecane (Pentamethylheptane) ... | 2286 | 3 Y | Flammable liquid |
| Isoheptene ... ... ... ... | 2287 | 3 Y E | Flammable liquid |
| Isohexene ... ... ... ... | 2288 | 3 Y E | Flammable liquid |
| Isononanoyl peroxide, technical pure or in solution | 2128 | 2WE | Organic peroxide |
| Isooctene ... ... ... ... | 1216 | 3 Y E | Flammable liquid |
| Isoprene, inhibited ... ... ... | 1218 | 3 Y E | Flammable liquid |
| Isopropanol (Isopropyl alcohol) ... | 1219 | 2 S E | Flammable liquid |
| Isopropenyl acetate ... ... ... | 2403 | 3 Y E | Flammable liquid |
| Isopropenylbenzene (*alpha*-Methylstyrene, 2-phenylpropene) | 2303 | 3 Y | Flammable liquid |
| Isopropyl acetate ... ... ... | 1220 | 3 Y E | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Isopropylamine ... ... ... | 1221 | 2WE | Flammable liquid |
| Isopropylbenzene (Cumene) ... | 1918 | 3 Y | Flammable liquid |
| Isopropyl formate ... ... ... | 2408 | 3YE | Flammable liquid |
| Kerosene (Paraffin) ... ... ... | 1223 | 3 Y | Flammable liquid |
| Lithium hydroxide solution ... ... | 2679 | 2R | Corrosive substance |
| *p*-Menthane hydroperoxide, technical pure | 2125 | 2WE | Organic peroxide |
| Mesityl oxide ... ... ... | 1229 | 3W | Flammable liquid |
| Methacrylic acid, inhibited ... ... | 2531 | 3X | Corrosive substance |
| Methane and natural gases with a high methane content, refrigerated liquid | 1972 | 2WE | Flammable gas |
| Methanol (Methyl alcohol, Wood alcohol, Columbian spirits) | 1230 | 2PE | Flammable liquid |
| Methyl acetate ... ... ... | 1231 | 2 S E | Flammable liquid |
| Methyl acrylate, inhibited ... ... | 1919 | 3WE | Flammable liquid |
| Methylal ... ... ... ... | 1234 | 2 Y E | Flammable liquid |
| Methylamine, aqueous solution ... | 1235 | 2PE | Flammable liquid |
| 2-Methyl-1-butene ... ... ... | 2459 | 3 Y E | Flammable liquid |
| 2-Methyl-2-butene ... ... ... | 2460 | 3 Y E | Flammable liquid |
| Methyl butyrate ... ... ... | 1237 | 3 Y E | Flammable liquid |
| Methyl cyanide (Acetonitrile) ... | 1648 | 2WE | Toxic substance |
| Methyl cyclohexane ... ... ... | 2296 | 3 Y E | Flammable liquid |
| Methyl cyclohexanone ... ... | 2297 | 3Y | Flammable liquid |
| Methyl cyclohexanols (Hexahydromethyl phenol, Hexahydrocresol) of flash point below 60·5°C | 2617 | 3 Y | Flammable liquid |
| Methylene bis (phenylene diisocyanate) | 2489 | 2X | Harmful substance |
| Methyl formate ... ... ... | 1243 | 2SE | Flammable liquid |
| 2-Methylfuran... ... ... ... | 2301 | 3YE | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| 5-Methylhexan -2-one ... ... | 2302 | 3Y | Flammable liquid |
| Methyl isobutyl carbinol (Methyl amyl alcohol, M.I.B.C., 4-Methyl-pentan -2-ol) | 2053 | 3 Y | Flammable liquid |
| Methyl isobutyl ketone ... ... | 1245 | 3 Y E | Flammable liquid |
| Methyl isocyanate and solutions ... | 2480 | 3WE | Flammable liquid |
| Methyl isopropenyl ketone, inhibited | 1246 | 3WE | Flammable liquid |
| Methyl methacrylate monomer, inhibited | 1247 | 3 Y E | Flammable liquid |
| Methyl propionate ... ... ... | 1248 | 3 Y E | Flammable liquid |
| Methyl propyl ketone ... ... | 1249 | 3 Y E | Flammable liquid |
| Methyl vinyl ketone ... ... ... | 1251 | 2PE | Flammable liquid |
| Morpholine (Tetrahydro -1, 4-oxazine) | 2054 | 2P | Flammable liquid |
| Naphtha (Coal tar, crude and solvent) | 2553 | 3YE | Flammable liquid |
| Naphthalene, molten ... ... ... | 2304 | 1X | Flammable solid |
| Nitric acid, other than red fuming nitric acid | 2031 | 2PE | Corrosive substance |
| Nitric acid, red fuming ... ... | 2032 | 2PE | Corrosive substance |
| Nitrobenzene (Nitrobenzol, Mirbane oil) | 1662 | 2X | Toxic substance |
| Nitrogen, refrigerated liquid... ... | 1977 | 2RE | Non-flammable compressed gas |
| Nitrotoluenes ... ... ... ... | 1664 | 2X | Toxic substance |
| Nonane and its isomers ... ... | 1920 | 3 Y | Flammable liquid |
| Octane and its isomers ... ... | 1262 | 3 Y E | Flammable liquid |
| Oil gas ... ... ... ... ... | 1071 | 2SE | Flammable gas |
| Oxygen, refrigerated liquid ... ... | 1073 | 2PE | Non-flammable compressed gas |
| Paraldehyde ... ... ... ... | 1264 | 2S | Flammable liquid |
| Pentan-2, 4-dione ... ... ... | 2310 | 2 S | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Pentane, normal and isopentane ... | 1265 | 3 Y E | Flammable liquid |
| Petrol ... ... ... ... | 1203 | 3 Y E | Flammable liquid |
| Petroleum distillates, n.o.s. Benzene content less than 5% (see Note 1 below) | 1268 | 3 Y E | Flammable liquid |
| Petroleum fuel n.o.s. (see Note 2 below) | 1270 | 3 Y E | Flammable liquid |
| Petroleum gases, liquefied n.o.s. ... | 1075 | 2WE | Flammable gas |
| Petroleum spirit (Benzolene, Lythene, Petroleum ether) | 1271 | 3 Y E | Flammable liquid |
| Phenol (Carbolic acid), molten ... | 2312 | 2X | Toxic substance |
| Phenosulphonic acid, liquid ... ... | 1803 | 2R | Corrosive substance |
| Phosphoric acid (Orthophosphoric acid) | 1805 | 2R | Corrosive substance |
| Phosphorus white, molten ... ... | 2447 | 2WE | Spontaneously combustible substance |
| Phosphorus trichloride (Phosphorus chloride) | 1809 | 4WE | Corrosive substance |
| Phosphoryl chloride (Phosphorus oxychloride) | 1810 | 4WE | Corrosive substance |
| Picolines (Methyl pyridines) ... | 2313 | 2S | Flammable liquid |
| *alpha*-Pinene ... ... ... ... | 2368 | 3 Y | Flammable liquid |
| Pine oil... ... ... ... ... | 1272 | 3 Y | Flammable liquid |
| Piperidine ... ... ... ... | 2401 | 2WE | Flammable liquid |
| Polychlorinated biphenyls ... ... | 2315 | 4X | Other hazardous substance |
| Potassium chlorate, solution ... | 2427 | 2S | Oxidizing substance |
| Potassium hydroxide, solution (Caustic potash, Potash liquor) | 1814 | 2R | Corrosive substance |
| Propane ... ... ... ... | 1978 | 2WE | Flammable gas |

1. Where benzene content is 5 per cent. or more use entry for benzene.
2. This substance does not include butane, butane mixtures, hydrocarbon gases and mixtures of such gases n.o.s. or propane.

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Propanol (Propyl alcohol) ... ... | 1274 | 2 S E | Flammable liquid |
| Propionaldehyde ... ... ... | 1275 | 2YE | Flammable liquid |
| Propionic acid ... ... ... | 1848 | 2P | Corrosive substance |
| Propionitrile ... ... ... ... | 2404 | 2WE | Flammable liquid |
| Propyl acetate, normal ... ... | 1276 | 3 Y E | Flammable liquid |
| Propylamine (Monopropylamine) ... | 1277 | 2WE | Flammable liquid |
| Propylene oxide ... ... ... | 1280 | 2PE | Flammable liquid |
| Propyl formates ... ... ... | 1281 | 3 Y E | Flammable liquid |
| Pyridine ... ... ... ... | 1282 | 2WE | Flammable liquid |
| Quinoline ... ... ... ... | 2656 | 3Z | Harmful substance |
| Resin solutions in flammable liquids— | | | |
| Epoxy resin in methyl ethyl ketone | 1866 | 2W | Flammable liquid |
| Phenolic resin in methanol ... | 1866 | 2WE | Flammable liquid |
| Polyester resin in styrene with flash point of more than 23°C | 1866 | 3 Y | Flammable liquid |
| Polyester resin in styrene with flash point of 23°C or less | 1866 | 3 Y E | Flammable liquid |
| Sodium aluminate, solution ... | 1819 | 2R | Corrosive substance |
| Sodium chlorate, solution ... ... | 2428 | 2S | Oxidizing substance |
| Sodium chlorite, solution containing more than 5% available chlorine | 1908 | 2R | Corrosive substance |
| Sodium hydroxide solution (Caustic soda liquor, Sodium hydrate, Lye) | 1824 | 2R | Corrosive substance |
| Sodium methylate, solutions in alcohol | 1289 | 2PE | Flammable liquid |
| Sodium sulphide, hydrated with at least 30% water | 1849 | 2R | Corrosive substance |
| Styrene monomer, inhibited (Cinnamene, Cinnamol, Phenylethylene or Vinylbenzene) | 2055 | 3 Y | Flammable liquid |
| Sulphur, molten ... ... ... | 2448 | 2X | Flammable solid |
| Sulphur dioxide, liquefied ... ... | 1079 | 2RE | Toxic gas |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Sulphuric acid ... ... ... | 1830 | 2P | Corrosive substance |
| Sulphuric acid fuming ... ... | 1831 | 4WE | Corrosive substance |
| Sulphuric acid spent ... ... ... | 1832 | 2P | Corrosive substance |
| Sulphur trioxide, inhibited ... ... | 1829 | 4WE | Corrosive substance |
| Sulphuryl chloride ... ... ... | 1834 | 4WE | Corrosive substance |
| Tars, liquid, including road asphalt and oils, bitumen and cut backs | 1999 | 2W | Flammable liquid |
| Terpene hydrocarbons, n.o.s. ... | 2319 | 3 Y | Flammable liquid |
| Tetrachloroethane (Acetylene tetrachloride) | 1702 | 2XE | Toxic substance |
| Tetrachloroethylene (Perchloroethylene) | 1897 | 2 Z | Harmful substance |
| Tetraethyl silicate (Ethyl silicate) ... | 1292 | 3Y | Flammable liquid |
| Tetrahydrofuran ... ... ... | 2056 | 2SE | Flammable liquid |
| Thionyl chloride ... ... ... | 1836 | 4WE | Corrosive substance |
| Thiophene ... ... ... ... | 2414 | 3WE | Flammable liquid |
| Toluene (Toluol) ... ... ... | 1294 | 3 Y E | Flammable liquid |
| Toluene di-isocyanate (Tolylene di-isocyanate, Toluylene di-isocyanate) | 2078 | 2XE | Toxic substance |
| Toluidines ... ... ... ... | 1708 | 3X | Toxic substance |
| 2, 4-Toluylenediamine ... ... | 1709 | 2X | Harmful substance |
| Trichloroethylene ... ... ... | 1710 | 2Z | Harmful substance |
| Triethylamine ... ... ... ... | 1296 | 3WE | Flammable liquid |
| Triisobutylene ... ... ... | 2324 | 3 Y | Flammable liquid |
| Trimethylamine, aqueous solutions containing not more than 30% trimethylamine | 1297 | 2PE | Flammable liquid |
| 1, 3, 5 -Trimethylbenzene ... ... | 2325 | 3 Y | Flammable liquid |
| Trimethyl borate ... ... ... | 2416 | 2 S | Flammable liquid |

| 1<br>Name of substance | 2<br>Substance identification number | 3<br>Emergency action code | 4<br>Hazard warning |
|---|---|---|---|
| Trimethyl phosphite ... ... ... | 2329 | 3 Y | Flammable liquid |
| Tripropylamine ... ... ... | 2260 | 3W | Flammable liquid |
| Tripropylene (Propylene trimer) ... | 2057 | 3 Y | Flammable liquid |
| Turpentine ... ... ... ... | 1299 | 3 Y | Flammable liquid |
| Turpentine substitute (White spirit) ... | 1300 | 3Y | Flammable liquid |
| Vinyl acetate, inhibited ... ... | 1301 | 3 Y E | Flammable liquid |
| Vinyl ethyl ether, inhibited ... ... | 1302 | 3YE | Flammable liquid |
| Vinylidene chloride, inhibited ... | 1303 | 3YE | Flammable liquid |
| Vinyl isobutyl ether, inhibited ... | 1304 | 3YE | Flammable liquid |
| Vinyl toluene (Methylstyrene, Methylvinyl benzene, Tolylethylene), mixed isomers, inhibited | 2618 | 3 Y | Flammable liquid |
| Xylene (Xylol) ... ... ... | 1307 | 3 Y | Flammable liquid |
| Xylenols ... ... ... ... | 2261 | 2X | Toxic substance |
| Zinc chloride, solution ... ... | 1840 | 2R | Corrosive substance |

## PART II

### ALTERNATIVE SUBSTANCE IDENTIFICATION NUMBERS AND EMERGENCY ACTION CODE FOR CERTAIN SUBSTANCES

Where any of the substances in column 1 below are being conveyed the substance identification number and emergency action code set out opposite thereto in columns 2 and 3 respectively below may be used as an alternative to those shown in Part I of this Schedule.

| 1<br>Substance | 2<br>Alternative substance identification No. | 3<br>Alternative emergency action code |
|---|---|---|
| Turpentine substitute ... ... ... | 1268 | 3 Y E |
| Gas oil ... ... ... ... ... | 1270 | 3 Y E |
| Petrol ... ... ... ... ... | 1270 | 3 Y E |
| Kerosene ... ... ... ... | 1270 | 3 Y E |

## PART III

INTERPRETATION OF COLUMN 3 IN PARTS I AND II OF THIS SCHEDULE

1. The number indicates the equipment suitable for fire fighting and where appropriate for dispersing spillages—

"1" water jets
"2" water fog
"3" foam
"4" dry agent.

*Notes:*

(1) In the absence of fog equipment, a fine spray of water may be used.

(2) Dry agent—contact of these substances with water is hazardous.

2. The first letter indicates the appropriate precautions in the event of a fire or a spillage as indicated by the table below:

| Letter | Danger of violent reaction or explosion | Protective clothing and breathing apparatus | Appropriate measures |
|---|---|---|---|
| P | Yes | Full protective clothing | Dilute |
| R | No | Full protective clothing | Dilute |
| S | Yes | Breathing apparatus | Dilute |
| S | Yes | Breathing apparatus for fire only | Dilute |
| T | No | Breathing apparatus | Dilute |
| T | No | Breathing apparatus for fire only | Dilute |
| W | Yes | Full protective clothing | Contain |
| X | No | Full protective clothing | Contain |
| Y | Yes | Breathing apparatus | Contain |
| Y | Yes | Breathing apparatus for fire only | Contain |
| Z | No | Breathing apparatus | Contain |
| Z | No | Breathing apparatus for fire only | Contain |

*Notes:*

(1) "Full protective clothing" includes breathing apparatus.

(2) Where "breathing apparatus" is indicated protective gloves are appropriate.

(3) "Dilute" indicates that the substance may be washed to drain with a large quantity of water.

(4) "Contain" indicates a need to avoid spillages from entering drains or water courses.

3. Where the Letter "E" occurs at the end of the emergency action code, evacuation of people from the neighbourhood of an incident should be considered.

Regulations 2(1) and 6

## SCHEDULE 2

THE MULTI-LOAD EMERGENCY ACTION CODE

1. The multi-load emergency action code shall consist of:—

(*a*) a number from "1" to "4"; followed by
(*b*) a letter; followed, in certain cases, by
(*c*) the letter "E".

2. For the purposes of paragraph 3 below any of the letters "S", "T", "Y" and "Z" when shown in column 3 of Part I or Part II of Schedule 1 as a black letter shall be treated as a different letter when shown in that column as a white letter on a black background.

3.—(1) The number of the multi-load emergency action code is the highest number of any occurring in the emergency action codes for each individual prescribed hazardous substance as shown in column 3 of Part I or Part II of Schedule 1.

(2) To determine the first letter of the multi-load emergency action code take the first letter of the emergency action code for each individual substance—

(*a*) if it is the same letter in each case then that letter is the first letter of the multi-load emergency action code;

(*b*) if there are 2 different letters then take one of the letters and select the vertical column in the code chart in sub-paragraph (3) below, which is headed (on the top horizontal line) by that letter, then take the other letter and select the horizontal line of letters which has that letter in the left hand vertical column, then the letter in the square where the first mentioned vertical column and that horizontal line meet ("the resultant letter") is the first letter of the multi-load action code;

(*c*) if there are 3 different letters then take any 2 of them and proceed as in paragraph (*b*) above, then take the resultant letter and do the same again using the resultant letter and the letter for the third substance, then the letter in the square where the vertical column headed (on the top horizontal line) by the resultant letter and the horizontal line of letters which has the letter for the third substance in its left hand vertical column meet, is the first letter of the multi-load action code;

(*d*) if there are more than 3 different letters proceed as above taking the resultant letter each time with one of the other letters until all the other letters have been used, then the letter in the square when the last other letter is used is the first letter of the multi-load action code.

(3) The code chart is—

| | P | R | S | **S** | T | **T** | W | X | Y | **Y** | Z | **Z** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | P | P | P | P | P | P | W | W | W | W | W | W |
| R | P | R | P | P | R | R | W | X | W | W | X | X |
| S | P | P | S | S | S | S | W | W | Y | Y | Y | Y |
| **S** | P | P | S | **S** | S | **S** | W | W | Y | **Y** | Y | **Y** |
| T | P | R | S | S | T | T | W | X | Y | Y | Z | Z |
| **T** | P | R | S | **S** | T | **T** | W | X | Y | **Y** | Z | **Z** |
| W | W | W | W | W | W | W | W | W | W | W | W | W |
| X | W | X | W | W | X | X | W | X | W | W | X | X |
| Y | W | W | Y | Y | Y | Y | W | W | Y | Y | Y | Y |
| **Y** | W | W | Y | **Y** | Y | **Y** | W | W | Y | **Y** | Y | **Y** |
| Z | W | X | Y | Y | Z | Z | W | X | Y | Y | Z | Z |
| **Z** | W | X | Y | **Y** | Z | **Z** | W | X | Y | **Y** | Z | **Z** |

(4) Nothing in this paragraph shall be construed as authorising the carrying of any two substances in one load if it would create a danger to mix them.

(5) The letter "E" shall be included as the last letter of the multi-load action code if it occurs in the emergency action codes of any one of the substances in the multi-load.

4. Where a multi-load consists of the substances specified in sub-paragraph (*a*) of column 1 below or 2 or more of the substances specified in sub-paragraph (*b*) of that column then the load may be treated as if it were a single load with the substance identification number and emergency action code shown opposite thereto in columns 2 and 3 respectively.

| 1<br>Substances which may be carried using the substance identification number and emergency action code shown in columns 2 and 3 | 2<br>Substance identification No. | 3<br>Emergency action code |
|---|---|---|
| (*a*) 1300 Turpentine substitute (White spirit) ...<br>1268 Petroleum distillates, n.o.s., with a Benzene content if less than 5% | 1268 | 3 Y E |
| (*b*) 1202 Gas oil ... ... ... ... ...<br>1203 Petrol<br>1223 Kerosene<br>1270 Petroleum fuel n.o.s. | 1270 | 3 Y E |

Regulations 2(1), 4 and 6

## SCHEDULE 3

### HAZARD WARNING SIGNS

### PART I

1. The hazard warning signs that shall be used on hazard warning panels and compartment labels are set out in Part II of this Schedule.

2. The hazard warning sign to be displayed on a road tanker carrying a multi-load shall be the sign for "other hazardous substances and multi-loads of substances of different hazards" unless the hazard as ascertained from column 4 of Part I of Schedule 1 for each individual substance in the multi-load is the same, when it shall be the sign for that hazard.

3. Each hazard warning sign shall be in the form of a square set with its sides at an angle of 45° to the vertical and the length of the sides shall be—

(*a*) in the case of signs on hazard warning panels, 200 millimetres; or

(*b*) in the case of signs on compartment labels 95 millimetres.

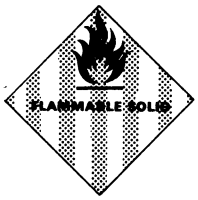
4. Signs for hazard warning panels shall, for any part of the sign that is not black, have a black border at least 5 millimetres wide, except that for a period of 4 years from the date on which these Regulations come into operation such lines may be at least 2 millimetres wide.

5. The signs shall conform in colour to the table below and such colours shall conform to the specifications given in Part II of Schedule 4.

| Description of sign | Symbol | Lettering | Background |
|---|---|---|---|
| Flammable liquids ... ... | Black or white | Black or white | Red |
| Flammable solids ... ... | Black | Black | White with vertical red stripes |
| Flammable gases ... ... | Black or white | Black or white | Red |
| Toxic gases ... ... ... | Black | Black | White |
| Non-flammable compressed gases | Black or white | Black or white | Green |
| Toxic substances ... ... | Black | Black | White |
| Harmful substances ... ... | Black | — | White |
| Corrosive substances ... ... | Black | White | White upper half, black lower half |
| Organic peroxides ... ... | Black | Black | Yellow |
| Oxidizing substances ... ... | Black | Black | Yellow |
| Substances which in contact with water emit flammable gases | Black or white | Black or white | Blue |
| Spontaneously combustible substances | Black | Black or white | White upper half, red lower half |
| Other hazardous substances and multi-loads of different hazards | Black | — | White |

PART II


FLAMMABLE LIQUIDS




FLAMMABLE SOLIDS


FLAMMABLE GASES


TOXIC GASES


NON–FLAMMABLE COMPRESSED GASES


TOXIC SUBSTANCES

HARMFUL SUBSTANCES – KEEP AWAY FROM FOOD


CORROSIVE SUBSTANCES


ORGANIC PEROXIDES


OXIDIZING SUBSTANCES


SUBSTANCES WHICH IN CONTACT WITH WATER EMIT FLAMMABLE GASES


SPONTANEOUSLY COMBUSTIBLE SUBSTANCES

OTHER HAZARDOUS SUB-STANCES & MULTI-LOADS OF SUBSTANCES OF DIFFERENT HAZARDS

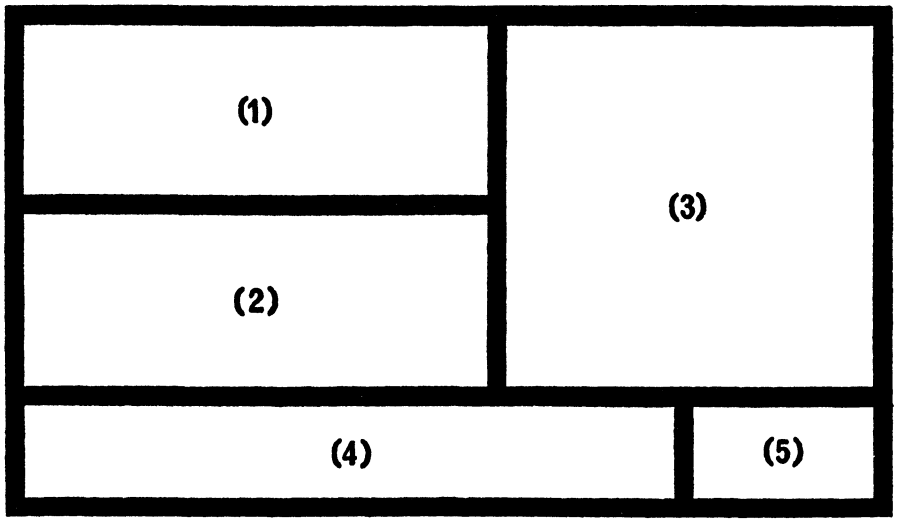
Regulations 4, 5, 6 and 7

## SCHEDULE 4

### PART I

FORM AND SPECIFICATION OF HAZARD WARNING PANELS AND COMPARTMENT LABELS

1. The form of the hazard warning panel is as set out below and the spaces shall be used for the purposes indicated by the notes below.

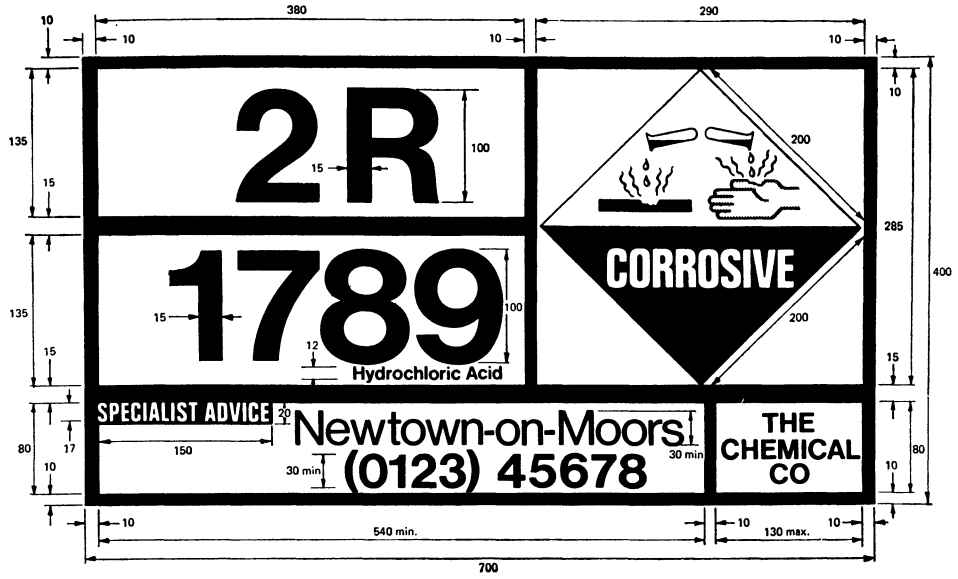



*Notes:—*

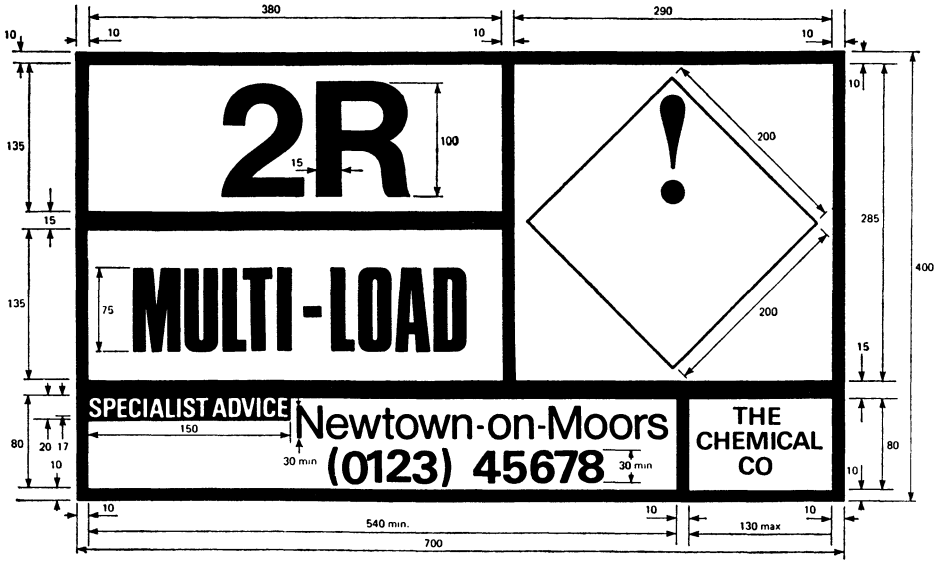
(1) Space for emergency action code (for 4 years from the coming into operation of these Regulations this space may also include "hazchem").
(2) Space for substance identification number and if included name or in the case of multi-loads the word "multi-load" (for 4 years from the coming into operation of these Regulations this space may also include "UN No").
(3) Space for hazard warning sign.
(4) Space for telephone number or other approved text.
(5) Space for optional manufacturer's or owner's name or house symbol, or both.

2. The colour of the hazard warning panel shall be orange and conform to the specification for that colour in Part II below, except for the space for the hazard warning sign which shall be white, and the borders, internal dividing lines letters and figures which shall be black.

3. The specification for hazard warning panels for single loads is set out below with dimensions in millimetres.

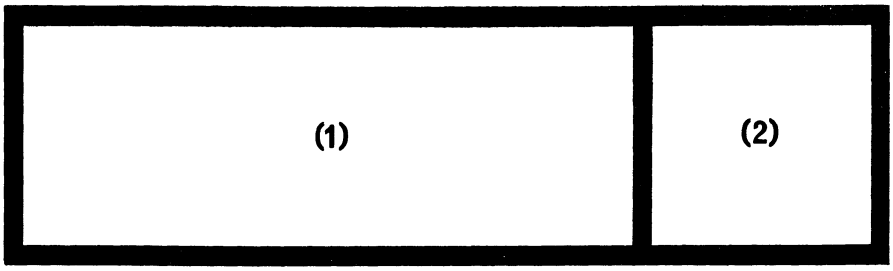



4. The specification for hazard warning panels for multi-loads is set out below with dimensions in millimetres.



5. Where the emergency action code or the multi-load emergency action code ascertained from Schedule 1 or 2 is a white letter on a black background it shall be displayed on the panel as orange on a black background; the letter shall appear in a black rectangle having a height of 110 millimetres and a width 10 millimetres greater than the width of the letter.

6. The form of the compartment label for multi-loads of substances of different hazards is set out below and the spaces shall be used for the purposes indicated by the notes below.




*Notes:*

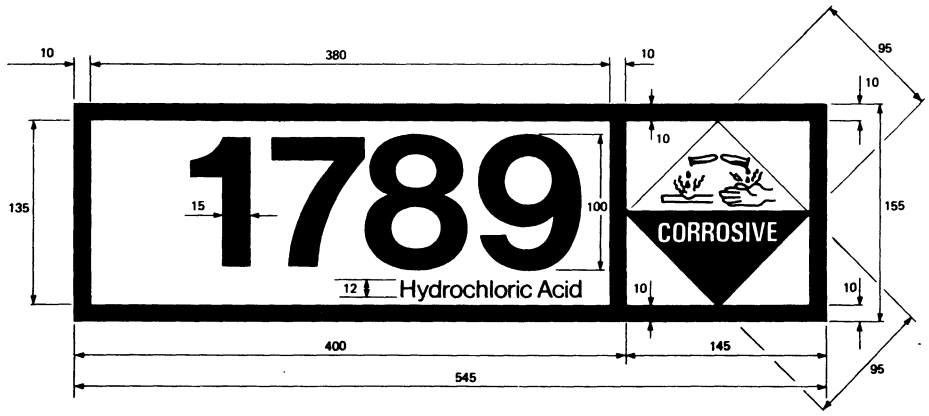
(1) Space for substance identification number and, if included, name.

(2) Space for hazard warning sign.

7. Where the multi-load consists of substances of the same hazards the square labelled (2) in paragraph 6 above may be omitted from the compartment label.

8. The colour of the compartment label shall be orange and shall conform to the specification for that colour in Part II below except for the space for the hazard warning sign, where one is required, which shall be white and the borders which shall be black.

9. The specification for compartment labels is set out below with dimensions in millimetres.




## PART II

### SPECIFICATIONS FOR COLOURS OF HAZARD WARNING PANELS COMPARTMENT LABELS AND HAZARD WARNING SIGNS

The colours of the various parts of the panel, in conditions of normal use, shall have chromaticity co-ordinates lying within the area formed by joining, on the Commission International de l'Eclairage chromaticity diagram(a) the co-ordinates listed in the table below and for non-retroreflective materials the luminance factor B(b)

(a) CIE 45.14.200. (b) CIE 45.60.425.

shall be greater than or equal to that specified in the table for that colour. The tests shall be carried out using standard illuminant D65(a).

| Colour | | Chromaticity co-ordinates of colour points determining the permitted colour area illuminant: 1 | 2 | 3 | 4 | Luminance factor B for non-retro-reflective materials |
|---|---|---|---|---|---|---|
| Red | x | 0·658 | 0·576 | 0·605 | 0·690 | 0·07 |
| | y | 0·342 | 0·339 | 0·310 | 0·310 | |
| Orange | x | 0·520 | 0·520 | 0·578 | 0·618 | 0·22 |
| | y | 0·380 | 0·400 | 0·422 | 0·380 | |
| Yellow | x | 0·481 | 0·439 | 0·477 | 0·531 | 0·50 |
| | y | 0·518 | 0·471 | 0·433 | 0·468 | |
| Green | x | 0·007 | 0·248 | 0·286 | 0·201 | 0·15 |
| | y | 0·703 | 0·409 | 0·435 | 0·776 | |
| Blue | x | 0·078 | 0·198 | 0·240 | 0·137 | 0·05 |
| | y | 0·171 | 0·252 | 0·210 | 0·038 | |

Angle of illumination: 45° with the normal to the surface and viewed in the direction of the normal.

## EXPLANATORY NOTE

*(This Note is not part of the Regulations.)*

1. These Regulations impose requirements for notices to be displayed on road tankers which are being used for the conveyance by road of prescribed hazardous substances (those substances specified in Schedule 1).

2. The Regulations impose a duty on the operator of a road tanker to ensure that it carries hazard warning panels and, in the case of compartmented tanks carrying different substances, labels in respect of the compartments. The operator is required to instruct the driver in the significance of the panels and labels. The consignor of a prescribed hazardous substance is required to give the operator the information necessary for him to prepare the panels and labels; and the driver is required so far as is reasonably practicable to keep them clean and to ensure that they continue to be displayed.

3. The Regulations apply from the commencement of loading until the tank has been completely cleaned out whether or not the vehicle is on a road; they do not apply in certain emergency situations or where the vehicle is engaged in an international transport operation and is labelled in accordance with the European Agreement concerning the International Carriage of Dangerous Goods by Road, signed at Geneva on 30th September 1957. Copies of that Agreement can be obtained from Her Majesty's Stationery Office and copies of the documents of the Commission International de l'Eclairage (referred to in Part II of Schedule 4) can be obtained from the Library, the National Illumination Committee, 246 Great Cambridge Road, Enfield, Middlesex.

(a) CIE 45.15.145.

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