RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part S Ships Carrying Dangerous Chemicals in Bulk

Rules for the Survey and Construction of Steel Ships
Part S 2020 AMENDMENT NO.2
Guidance for the Survey and Construction of Steel Ships
Part S 2020 AMENDMENT NO.2

Rule No.112 / Notice No.61 24 December 2020
Resolved by Technical Committee on 5 August 2020

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NIPPON KAIJI KYOKAI

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part S Ships Carrying Dangerous Chemicals in Bulk

2020 AMENDMENT NO.2

Rule No.112 24 December 2020

Resolved by Technical Committee on 5 August 2020

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.112 24 December 2020
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part S SHIPS CARRYING DANGEROUS CHEMICALS IN BULK

Chapter 1 GENERAL

1.3 Definitions

Paragraph 1.3.1 has been amended as follows.

1.3.1 Definitions (With reference to *IBC Code* 1.3)*

The following definitions **(1)** to **(~~29~~33)** in this part unless expressly provided otherwise.

~~(1) "Administration" means the Government of the State whose flag the ship is entitled to fly.~~

~~(2) "Port Administration" means the appropriate authority of the country in the port of which the ship is loading or unloading.~~

~~(3) "Boiling point" means the temperature at which a product exhibits a vapour pressure equal to the atmospheric pressure.~~

~~(4) "Cargo area" means that part of the ship which contains cargo tanks, slop tanks, cargo pump rooms including pump rooms, cofferdams, ballast or void spaces adjacent to tanks or slop tanks and also deck areas throughout the entire length and breadth of the part of the ship over the above-mentioned spaces. Where independent tanks are installed in hold spaces, cofferdams, ballast or void spaces at the after end of the aftermost hold space or at the forward end of the forwardmost hold space are excluded from the cargo area.~~

~~(5) "Cargo pump room" means a space containing pumps and their accessories for the handling of products covered by this Part.~~

~~(6) "Cargo service spaces" means spaces within the cargo area used for workshops, lockers and store-rooms of more than 2 *m* in area, used for the cargo handling equipment.~~

~~(7) "Cargo tank" means the envelope designed to contain the cargo.~~

~~(8) "Chemical tanker" means a ship constructed or adapted and used for the carriage in bulk of any liquid product listed in **Table S17.1**.~~

~~(9) "Cofferdam" means the isolating space between two adjacent steel bulkheads or decks. This space may be a void space or a ballast space.~~

~~(10) "Control stations" means those spaces as defined **3.2.18, Part R**. This does not include spaces containing special fire control equipment which can be most practically located in the cargo area.~~

~~(11) "Explosive/Flammability limits (range)" means the conditions defining the state of fuel-oxidant mixture at which application of an adequately strong external ignition source is only just capable of producing flammability in a given test apparatus.~~

~~(12) "Flashpoint" means the temperature in degrees Celsius at which a product will give off enough flammable vapour to be ignited. Values given in this Part are "closed cup test" determined by an approved flashpoint apparatus.~~

~~(13) "Hold space" means the space enclosed by the ship's structure in which an independent cargo tank is situated.~~

~~(14) "Independent" means that a piping or venting system, for example, is in no way connected to another system and that there are no provisions available for the potential connection to other systems.~~

~~(15) "Oil fuel unit" means the equipment as defined in **3.2.34, Part R.**~~

~~(16) "Permeability" of space means the ratio of the volume within that space which is assumed to be occupied by water to the total volume of that space.~~

~~(17) "Pump room" means a space, located in the cargo area, containing pumps and other accessories for the handling of ballast and oil fuel.~~

~~(18) "Relative density" of liquid means the ratio of the mass of a volume of a product to the mass of an equal volume of fresh water.~~

~~(19) "Separate" means that a cargo piping system or cargo vent system, for example, is not connected to another cargo piping or cargo vent system. This separation may be achieved by the use of design or operational methods. Operational methods are not to be used within a cargo tank and are to consist of one of the following types:~~

~~(a) removing spool pieces or valves and blanking the pipe end~~

~~(b) arrangement of two spectacle flanges in series with provisions for detecting leakage into the pipe between the two spectacle flanges.~~

~~(20) "Density" means the ratio of the mass to the volume of a product, expressed in terms of kilograms per cubic metre. This applies to liquids, gases and vapours.~~

~~(21) "Vapour pressure" means the equilibrium pressure of the saturated vapour above the liquid expressed in *MPa* absolue at a specified temperature.~~

~~(22) "Void space" means an enclosed space in the cargo area external to a cargo tank, other than a hold space, ballast space, oil fuel tank, cargo pump room, pump room, or any space in normal use by personal.~~

~~(23) "*IBC Code*" means the "International Code for a Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk".~~

~~(24) "*MARPOL 73/78*" means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.~~

~~(25) "Noxious liquid substance" means any substance indicated in the Pollution Category column of **Chapter 17** or **18 of this part**, the current *MEPC.2/Circ.* or provisionally assessed under the provisions of regulation 6.3 of *MARPOL* Annex II as falling into categories *X, Y* or *Z.*~~

~~(26) "Machinery Spaces" means those spaces as defined **3.2.30, Part R.**~~

~~(27) "Service Spaces" means those spaces as defined **3.2.45, Part R.**~~

~~(28) "Purging" means the introduction of inert gas into a tank which is already in an inert condition with the object of further reducing the oxygen content; and/or reducing the existing hydrocarbon or other flammable vapours content to a level below which combustion cannot be supported if air is subsequently introduced into the tank.~~

~~(29) "Gas-freeing" means the process where a portable or fixed ventilation system is used to introduce fresh air into a tank in order to reduce the concentration of hazardous gases or vapours to a level safe for tank entry.~~

(1) "Accommodation spaces" mean those spaces used for public spaces, corridors, lavatories, cabins, offices, hospitals, cinemas, games and hobbies rooms, barber shops, pantries containing no cooking appliances and similar spaces. "Public spaces" are those portions of the accommodation spaces which are used for halls, dining rooms, lounges and similar permanently enclosed spaces.

(2) "Administration" means the government of the state whose flag the ship is entitled to fly.

(3) "Boiling point" means the temperature at which a product exhibits a vapour pressure equal to the atmospheric pressure.

(4) "Breadth (*B*)" means the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material. The breadth (*B*) is to be measured in metres (m).

(5) "Cargo area" means that part of the ship which contains cargo tanks, slop tanks, cargo pump rooms including pump rooms, cofferdams, ballast or void spaces adjacent to tanks or slop

tanks and also deck areas throughout the entire length and breadth of the part of the ship over the above-mentioned spaces. Where independent tanks are installed in hold spaces, cofferdams, ballast or void spaces at the after end of the aftermost hold space or at the forward end of the forwardmost hold space are excluded from the cargo area.

(6) "Cargo pump room" means a space containing pumps and their accessories for the handling of products covered by this part.

(7) "Cargo service spaces" means spaces within the cargo area used for workshops, lockers and store-rooms of more than 2 m^2 in area, used for the cargo handling equipment.

(8) "Cargo tank" means the envelope designed to contain the cargo.

(9) "Chemical tanker" means a ship constructed or adapted and used for the carriage in bulk of any liquid product listed in **Table S17.1**.

(10) "Cofferdam" means the isolating space between two adjacent steel bulkheads or decks. This space may be a void space or a ballast space.

(11) "Control stations" means those spaces in which the ship's radio or main navigating equipment or emergency source of power is located or where the fire recording or fire control equipment is centralized. This does not include spaces containing special fire-control equipment which can be most practically located in the cargo area.

(12) "Dangerous chemicals" means any liquid chemicals designated as presenting a safety hazard, based on the safety criteria for assigning products to **Chapter 17**.

(13) "Density" means the ratio of the mass to the volume of a product, expressed in terms of kilograms per cubic metre (km/m^3). This applies to liquids, gases and vapours.

(14) "Explosive/Flammability limits (range)" means the conditions defining the state of fuel-oxidant mixture at which application of an adequately strong external ignition source is only just capable of producing flammability in a given test apparatus.

(15) "Flashpoint" means the temperature in degrees celsius (°C) at which a product will give off enough flammable vapour to be ignited. Values given in this part are "closed cup test" determined by an approved flashpoint apparatus.

(16) "Gas-freeing" means the process where a portable or fixed ventilation system is used to introduce fresh air into a tank in order to reduce the concentration of hazardous gases or vapours to a level safe for tank entry.

(17) "Hold space" means the space enclosed by the ship's structure in which an independent cargo tank is situated.

(18) "Independent" means that a piping or venting system, for example, is in no way connected to another system and that there are no provisions available for the potential connection to other systems.

(19) *Length (L)* means 96 % of the total length on a waterline at 85 % of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel, the waterline on which this length is measured is to be parallel to the designed waterline. The length (*L*) is to be measured in metres (m).

(20) "Machinery Spaces" means those spaces as defined **3.2.30, Part R of the Rules**.

(21) "*MARPOL* 73/78" means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and by the Protocol of 1997, as amended.

(22) "Noxious liquid substance" means any substance indicated in the "Pollution Category" column of **Chapter 17** or **18 of this part**, the current *MEPC.2/Circ.* or provisionally assessed under the provisions of regulation 6.3 of *MARPOL* Annex II as falling into categories *X*, *Y* or *Z*.

(23) "Oil fuel unit" means the equipment as defined in **3.2.34, Part R of the Rules**.

(24) "Permeability" of space means the ratio of the volume within that space which is assumed to

be occupied by water to the total volume of that space.

(25) "Port Administration" means the appropriate authority of the country in the port of which the ship is loading or unloading.

(26) "Pump room" means a space, located in the cargo area, containing pumps and other accessories for the handling of ballast and oil fuel.

(27) "Purging" means the introduction of inert gas into a tank which is already in an inert condition with the object of further reducing the oxygen content; and/or reducing the existing hydrocarbon or other flammable vapours content to a level below which combustion cannot be supported if air is subsequently introduced into the tank.

(28) "Reference temperature" means the temperature at which the vapour pressure of the cargo corresponds to the set pressure of the pressure-relief valve.

(29) "Separate" means that a cargo piping system or cargo vent system, for example, is not connected to another cargo piping or cargo vent system. This separation may be achieved by the use of design or operational methods. Operational methods are not to be used within a cargo tank and are to consist of one of the following types:
   (a) removing spool pieces or valves and blanking the pipe end; or
   (b) arrangement of two spectacle flanges in series with provisions for detecting leakage into the pipe between the two spectacle flanges.

(30) "Service Spaces" means those spaces as defined **3.2.45, Part R of the Rules**.

(31) "Vapour pressure" means the equilibrium pressure of the saturated vapour above the liquid expressed in *Pa* absolute at a specified temperature.

(32) "Void space" means an enclosed space in the cargo area external to a cargo tank, other than a hold space, ballast space, oil fuel tank, cargo pump room, pump room, or any space in normal use by personal.

(33) "*IBC Code*" means the "International Code for a Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk".

Chapter 13 INSTRUMENTATION (*IBC Code* Chapter 13)

13.2 Vapour Detection

Paragraph 13.2.3 has been amended as follows.

13.2.3 Requirement for Some Products which is Not Available with Toxic Vapour Detection*

When toxic vapour detection equipment is not available for some products which require such detection, as indicated in column "**k**" in the **Table S17.1**. The Society may exempt the ship from the requirement. When granting such an exemption, the Society is to recognize the necessity for additional breathing air supply to the provisions of **14.2.4**.

Chapter 15 SPECIAL REQUIREMENTS

Section 15.15 has been amended as follows.

15.15 ~~(Deleted)~~ Hydrogen Sulphide(H_2S) Detection Equipment for Bulk Liquids (*IBC Code* 15.15)

15.15.1 Hydrogen Sulphide(H_2S) Detection Equipment for Bulk Liquids

Hydrogen sulphide (H_2S) detection equipment is to be provided on board ships carrying bulk liquids prone to H_2S formation. It is to be noted that scavengers and biocides, when used, may not be 100 % effective in controlling the formation of H_2S. Toxic vapour detection instruments complying with the requirement in **13.2.1** for testing for H_2S may be used to satisfy this requirement.

Chapter 16 OPERATIONAL REQUIREMENTS

16.2 Operational Requirements

16.2.3 Cargo Information (*IBC Code* 16.2)*

Sub-paragraph -8 has been added as follows.

8 Where column "***o***" in the **Table S17.1** refers to this paragraph, the cargo is subject to the prewash requirements in regulation 13.7.1.4 of Annex II of *MARPOL 73/78*.

Chapter 17 SUMMARY OF MINIMUM REQUIREMENTS
(with reference to *IBC Code* Chapter 17)

17.1 General

17.1.1 Application*

Sub-paragraph (1) has been amended as follows.

The requirements for each product mentioned in column "***e***" to "***o***" in the **Table S17.1** apply to the ship in accordance with the provisions in which refer to the table. The contents of each column in the **Table S17.1** are as follows. Further, Minimum requirements to ships intended to carry mixtures of noxious liquid substances presenting pollution hazards only and which are provisionally assessed under regulation 6.3 of Annex II of *MARPOL 73/78*, are to be to the satisfaction of the Society.

(1) Product name (column ***a***)
Product names are to be used in the shipping document for any cargo offered for bulk shipments. In some cases, ~~T~~the product names are not identical with the names given in previous issues of the *Code*, or the *BCH Code* for explanation see index of chemicals.

Table S17.1 has been amended as follows.

Table S17.1 Summary of Minimum Requirements

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Acetic acid	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~R~~*C*	*F*	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.17, 15.19~~.6~~, 16.2.3-~~9.~~7 (16.2.9)
Acetic anhydride	*Z*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19.6
Acetochlor	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Acetone cyanohydrin	*Y*	*S/P*	~~2~~1	~~2~~1*G*	*Cont*	*No*	~~*T1.*~~	~~IIA.~~	*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.13, 15.17, ~~15.18,~~ 15.19 & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)
Acetonitrile	*Z*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Acetonitrile (Low purity grade)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T1*	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Acid oil mixture from ~~soyabean~~soya bean, corn (maize) and sunflower oil refining	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Acrylamide solution (50 % or less)	*Y*	*S/P*	~~2~~3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	*C*	~~*No*~~*T*	*No*	*No*	15.12~~.3~~, 15.13, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9), 16.2.7-1~~.~~ (16.6.1)
Acrylic acid	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.13, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9), 16.2.7-1~~.~~(16.6.1)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Acrylic acid/ethenesulphonic acid copolymer with phosphonate groups, sodium salt solution	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
Acrylonitrile	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*B*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.13, 15.17, 15.19 & 15.22.12 (15.19)
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	*Y*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6)
Adiponitrile	*Z*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	-	~~II~~*B* -	*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Alachlor technical (90 % or more)	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alcohol (C9– C11) poly (2.5– 9) ethoxylate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alcohol (C6-C17) (secondary) poly(3-6)ethoxylates	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Alcohol (C6– C17) (secondary) poly (7–12) ethoxylates	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Alcohol (C10 – C18) poly (7) ethoxylate	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-7 (16.2.9)
Alcohol (C12 – C16) poly (1 – 6) ethoxylates	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alcohol (C12 – C16) poly (20+) ethoxylates	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alcohol (C12 – C16) poly (7– 19) ethoxylates	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Alcohols (C13+)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alcohols (C12+), primary, linear	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
Alcohols (C8 – C11), primary, linear and essentially linear	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alcohols (C12 – C13), primary, linear and essentially linear	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alcohols (C14 – C18), primary, linear and essentially linear	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Alkanes (C6 ─ C9)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T3*	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
Iso-and cyclo-alkanes (C10 – C11)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T3*	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Iso-and cyclo-alkanes (C12+)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T3*	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
~~Alkanes(C10-C26), linear and branched,(flashpoint>60℃)~~	~~*Y*~~	~~*S/P*~~	~~3~~	~~2*G*~~	~~*Open*~~	~~*No*~~	~~-~~	~~-~~	~~*Yes*~~	~~*O*~~	~~*No*~~	~~*AB C*~~	~~*No*~~	~~15.19.6~~
~~n-Alkanes (C10+)~~	~~*Y*~~	~~*P*~~	~~3~~	~~2*G*~~	~~*Cont*~~	~~*No*~~	~~*T3*~~	~~II*A*~~	~~*No*~~	~~*R*~~	~~*F*~~	~~*A*~~	~~*No*~~	~~15.19.6~~
n-Alkanes (C9 – C11)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T3*	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
n-Alkanes (C10 – C20)	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Alkaryl polyethers (C9 – C20)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Alkenoic acid, polyhydroxy ester borated	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Alkenyl (C11+) amide	*X*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)
Alkenyl (C16– C20) succinic anhydride	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*No AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Alkyl acrylate-/vinylpyridine copolymer in toluene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T4T1*	II*B*	*No*	*RC*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-9.7 (16.2.9)
Alkylaryl phosphate mixtures (more than 40 % Diphenyl tolyl phosphate, less than 0.02 % ortho-isomers)	*X*	*S/P*	12	2*G*	*ContOpen*	*No*	*T1.*	*IIA.*	*Yes*	*CO*	*TNo*	*AB C*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19) 15.19.6
Alkylated (C4 – C9) hindered phenols	*Y*	*S/P*	2	2*G*	*Open Cont*	*No*	-	-	*Yes*	*OR*	*NoT*	*AB DC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)
Alkylbenzene, alkylindane, alkylindene mixture (each C12 – C17)	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Alkyl benzene distillation bottoms	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6)
Alkylbenzene mixtures (containing at least 50 % of toluene)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Alkylbenzenes mixtures (containing naphthalene)	*X*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Alkyl (C3 – C4) benzenes	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T4T1*	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Alkyl (C5 – C8) benzenes	*X*	*S/P*	2	2*G*	*Open Cont*	*No*			*Yes*	*OR*	*NoT*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Alkyl(C9+)benzenes	*Y*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Alkyl (C11 – C17) benzene sulphonic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Alkylbenzene sulphonic acid, sodium salt solution	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alkyl/cyclo (C4 – C5) alcohols	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T2*	IIB	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Alkyl (C10 – C15, C12 rich) phenol poly (4 – 12) ethoxylate	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6 (16.2.6)
Alkyl (C12+) dimethylamine	*X*	*S/P*	1	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AB C*~~*D*~~	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Alkyl dithiocarbamate (C19 – C35)	*Y*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-9. (16.2.9)
Alkyldithiothiadiazole (C6 – C24)	*Y*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Alkyl ester copolymer (C4 – C20)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C7– C9) nitrates	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19.6 & 15.22.12 (15.19), 15.20, 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2), 16.2.7-3 (16.6.3)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Alkyl (C8 – C10)/(C12 – C14): (40 % or less/60 % or more) polyglucoside solution (55 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	~~*No*~~ *AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C8 – C10)/(C12 – C14): (60 % or more/40 % or less) polyglucoside solution(55 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	~~*No*~~ *AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
~~Alkyl (C7-C9) nitrates~~	~~*Y*~~	~~*S/P*~~	~~2~~	~~2*G*~~	~~*Open*~~	~~*No*~~			~~*Yes*~~	~~*O*~~	~~*No*~~	~~*AB*~~	~~*No*~~	~~15.19.6, 15.20, 16.2.7.1. (16.6.1), 16.2.7.2. (16.6.2), 16.2.7.3. (16.6.3)~~
Alkyl (C7 – C11) phenol poly (4 – 12) ethoxylate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Alkyl (C8 – C40) phenol sulphide	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
Alkyl (C8 – C9) phenylamine in aromatic solvents	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T4*~~*T1*	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Alkyl (C9 – C15) phenyl propoxylate	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Alkyl (C8 – C10) polyglucoside solution (65 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	~~*No*~~ *AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Alkyl (C8 – C10)/(C12-C14): (50 %/50 %) polyglucoside solution (55 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	~~*No*~~ *AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C12 – C14) polyglucoside solution (55 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	~~*No*~~ *AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C12 – C16) propoxyamine ethoxylate	*X*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~(16.2.6)
Alkyl (C10 – C20, saturated and unsaturated) phosphite	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alkyl sulphonic acid ester of phenol	*Y*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Alkyl (C18+) toluenes	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C18 – C28)~~toluenesulfonic~~ toluenesulphonic acid	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*ABC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.17, 15.19&15.22.12(15.19), 16.2.3-6~~.~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Alkyl (C18 – C28)~~toluenesulfonic~~ toluenesulphonic acid, calcium salts, borated	*Y*	*S/P*	3	2*G*	~~*Cont*~~ *Open*	*No*	-	-	*Yes*	~~*C*~~*O*	~~*T*~~*No*	*ABC*	~~*Yes*~~*No*	~~15.12, 15.17,~~ 15.19.6~~&15.22.12(15.19),~~ 16.2.3-6~~.~~ (16.2.6)
Alkyl (C18 – C28)~~toluenesulfonic~~ toluenesulphonic acid, calcium salts, low	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	~~*C*~~*R*	*T*	*ABC*	~~*Yes*~~*No*	15.12.3, 15.~~17~~12.4, 15.19.6~~&15.22.12(15.19),~~

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
overbase														16.2.3-6~~=~~(16.2.6)
Alkyl (C18 – C28)~~toluenesulfonic~~ toluenesulphonic acid, calcium salts, high overbase	*Y*	*S/P*	3	2*G*	~~*Cont*~~ *Open*	*No*	-	-	*Yes*	~~*C*~~*O*	~~*T*~~*No*	*AB C*	~~*Yes*~~*No*	~~15.12, 15.17,~~ 15.19.6~~&15.22.12(15.19)~~, 16.2.3-6~~.~~ (16.2.6)
Allyl alcohol	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Allyl chloride	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AC*	~~*Yes*~~*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Aluminium chloride/Hydrogen chloride solution	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*NF*	*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.17, 15.19&15.22.12(15.19)
Aluminium hydroxide, sodium hydroxide, sodium carbonate solution (40 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Aluminium sulphate solution	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			~~*Yes*~~*NF*	~~*O*~~*C*	~~*No*~~*T*	~~*A*~~ *No*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
2-(2-Aminoethoxy) ethanol	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AD*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Aminoethyldiethanolamine/Aminoethylethanolamine solution	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Aminoethyl ethanolamine	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	~~*T2*~~ -	~~II*A*~~ -	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
N-Aminoethylpiperazine	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)~~, 16.2.3-9. (16.2.9)~~
2-Amino-2-methyl-1-propanol	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Ammonia aqueous (28 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	~~*AB C*~~ *No*	*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Ammonium chloride solution (less than	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
25 %)														
Ammonium hydrogen phosphate solution	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Ammonium lignosulphonate solutions	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Ammonium nitrate solution (93 % or less)	*Z*	*S/P*	2	1*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*R*	~~*No*~~*T*	*No*	*No*	15.2 & 15.22.2 (15.2), 15.11.4, 15.11.6, 15.12.3, 15.12.4, 15.18, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Ammonium polyphosphate solution	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Ammonium sulphate solution	*Z*	*P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	~~*A-*~~ *No*	*No*	
Ammonium sulphide solution (45 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	~~*No*~~*Inert*	*T*4	II*B*	*No*	*C*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)
Ammonium thiosulphate solution (60 % or less)	*Z*	*S/P*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	~~16.2.3 9. (16.2.9)~~
Amyl acetate (all isomers)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
n-Amyl alcohol	*Z*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*ABC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Amyl alcohol, primary	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
sec-Amyl alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
tert-Amyl alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
tert-Amyl ethyl ether	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
tert-Amyl methyl ether	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Aniline	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*Yes*	*C*	*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Aryl polyolefins (C11 – C50)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95 – 120 °C)	*X*	*S/P*	2	2*G*	*Cont*	*No*	~~*T4*~~*T3*	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Barium long chain (C11 – C50) alkaryl sulphonate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*A*~~*D*~~ *BC*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Benzene and mixtures having 10 benzene or more (i)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AB C*	*No*	15.12~~.1~~, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Benzene sulphonyl chloride	~~*Z*~~*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*A*~~*D*~~ *BC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Benzenetricarboxylic acid, trioctyl ester	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Benzyl acetate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Benzyl alcohol	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4,15.19.6
Benzyl chloride	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	~~*Yes*~~*No*	*C*	*F-T*	*AB C*	*Yes*	15.12, 15.13, 15.17, 15.19 & 15.22.12 (15.19)
~~Bio-fuel blends of Diesel/gas oil and Alkanes(C10-C26), linear and branched with a flashpoint >60°C(>25% but <99% by volume)~~	~~*X*~~	~~*S/P*~~	~~2~~	~~2*G*~~	~~*Cont*~~	~~*No*~~	~~-~~	~~-~~	~~*Yes*~~	~~*C*~~	~~*T*~~	~~*AB C*~~	~~*No*~~	~~15.12, 15.17, 15.19.6~~
~~Bio-fuel blends of Diesel/gas oil and Alkanes(C10-C26), linear and branched with a flashpoint ≤60°C(>25% but <99% by volume)~~	~~*X*~~	~~*S/P*~~	~~2~~	~~2*G*~~	~~*Cont*~~	~~*No*~~	~~*T3*~~	~~II*A*~~	~~*No*~~	~~*C*~~	~~*F-T*~~	~~*AB C*~~	~~*No*~~	~~15.12,15.17,15.19.6~~
Bio-fuel blends of diesel/gas oil and FAME (>25 % but < 99 % by volume)	*X*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AB C*	*No*	15.12, 15.17, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Bio-fuel blends of diesel/gas oil and vegetable oil (>25% but < 99 % by volume)	*X*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*ABC*	*No*	15.12, 15.17, 15.19.6
Bio-fuel blends of gasoline and ethyl alcohol(>25 % but <99 % by volume)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*C*~~*R*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
Bis (2-ethylhexyl) terephthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6 (16.2.6)
Brake fluid base mix: Poly (2 – 8) alkylene (C2 – C3) glycols/Polyalkylene (C2 – C10) glycols monoalkyl (C1 – C4) ethers and their borate esters	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Bromochloromethane	*Z*	~~*S/*~~*P*	3	2*G*	~~*Cont*~~*Open*	*No*			*NF*	~~*R*~~*O*	~~*T*~~*No*	*No*	*No*	
Butene oligomer	*X*	*P*	2	2*G*	~~*Open*~~ *Cont*	*No*	*T*4	II*B*	~~*Yes*~~*No*	~~*O*~~*R*	~~*No*~~*F*	*ABC*	*No*	15.19.6
2-Butoxyethanol (58 %)/Hyperbranched polyesteramide (42 %) (mixture)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19)
Butyl acetate (all isomers)	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Butyl acrylate (all isomers)	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F*~~-T~~	*ABC*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~(16.6.2)
tert-Butyl alcohol	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Butylamine (all isomers)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Butylbenzene (all isomers)	*X*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*4~~*T*2	II*A*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
Butyl benzyl phthalate	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
Butyl butyrate (all isomers)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
Butyl/Decyl/Cetyl/ Eicosyl methacrylate mixture	*Y*	*S/P*	2	2*G*	~~*Cont*~~*Open*	*No*	*T*3	II*A*	~~*Yes*~~*No*	*R*	~~*No*~~*F*	*A*~~*D*~~*BC*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~(16.6.2)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
Butylene glycol	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
1,2-Butylene oxide	*Y*	*S/P*	3	2*G*	*Cont*	*Inert*	*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.8.1～15.8.7 & 15.22.8-1~~.~~～15.22.8-5~~.~~ (15.8.1～15.8.7), 15.8.12, 15.8.13, 15.8.17 (15.8.16), 15.8.19 (15.8.17), 15.8.20 & 15.22.8-8~~.~~ (15.8.18), 15.8.21 & 15.22.8-9 (15.8.19), 15.8.23 (15.8.21), 15.8.31～15.8.33 & 15.22.8-12~~.~~～15.22.8-14~~.~~ (15.8.25), 15.8.35 (15.8.27), 15.8.37 & 15.22.8-~~16~~18. (15.8.29), 15.12, 15.17, 15.19.6
n-Butyl ether	*Y*	*S/P*	3	2*G*	*Cont*	*Inert*	*T*4	II*B*	*No*	*R*	*F-T*	*AC*	*No*	15.4.6, ~~15.12,~~ 15.19~~.6~~ & 15.22.12 (15.19)
Butyl methacrylate	*Z*	*S/P*	3	2*G*	*Cont*	*No*	~~*T1*~~*T3*	II*A*	*No*	*R*	*F-T*	~~*AD*~~ *BC*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
n-Butyl propionate	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Butyraldehyde (all isomers)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.19.6
Butyric acid	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*O*	*No*	*AC*	*No*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.19.6
gamma-Butyrolactone	*Y*	*S/P*	3	2*G*	~~*Open*~~	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB*	*No*	15.12, 15.17, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
					Cont							*C*		
Calcium alkaryl sulphonate(C11 – C50)	*Z*	*S/P*	3	2*G*	~~*Cont*~~*Open*	*No*	-	-	*Yes*	~~*C*~~*O*	~~*T*~~*No*	*ABC*	~~*Yes*~~ *No*	~~15.12, 15.17, 15.19&15.22.12(15.19)~~
Calcium alkyl (C10 – C28) salicylate	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*ABC*	~~*Yes*~~*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Calcium hydroxide slurry	~~*Z*~~*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Calcium hypochlorite solution (15 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*R*	~~*No*~~*T*	*No*	*No*	15.12.3, 15.12.4, 15.19.6
Calcium hypochlorite solution (more than 15 %)	*X*	*S/P*	1	2*G*	*Cont*	*No*			*NF*	*R*	~~*No*~~*T*	*No*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19)~~,~~ ~~16.2.3-9. (16.2.9)~~
Calcium lignosulphonate solutions	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	~~*Yes*~~*NF*	*O*	*No*	~~*A*~~ *No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Calcium long-chain alkyl (C5 – C10) phenate	*Y*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Calcium long-chain alkyl (C11 – C40) phenate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Calcium long-chain alkyl phenate sulphide (C8– C40)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Calcium long-chain alkyl salicylate (C13+)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-7 (16.2.9)
Calcium long-chain alkyl (C18– C28) salicylate	*Y*	*S/P*	2	2*G*	~~*Cont*~~*Open*	*No*	-	-	*Yes*	~~*C*~~*O*	~~*T*~~*No*	*ABC*	~~*Yes*~~ *No*	~~15.12, 15.17,~~ 15.19.6, ~~& 15.22.12 (15.19)~~ 16.2.3-6~~.~~ (16.2.6),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														16.2.3-~~9.~~7 (16.2.9)
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	~~*Yes*~~*NF*	*O*	*No*	~~*A*~~ *No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Calcium nitrate solution (50 % or less)	*Z*	*S*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Camelina oil	*Y*	*S/P*	2(k)	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-8 (16.2.7)
epsilon-Caprolactam (molten or aqueous solutions)	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Carbolic oil	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*F-T*	*ABC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Carbon disulphide	*Y*	*S/P*	~~2~~1	1*G*	*Cont*	*Pad+inert*	*T*6	II*C*	*No*	*C*	*F-T*	*C*	*Yes*	15.3 & 15.22.3 (15.3), 15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19)
Carbon tetrachloride	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	~~*Yes*~~ *No*	15.12, 15.17, 15.19.6
Cashew nut shell oil (untreated)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-8 (16.2.7), 16.2.3-9. (16.2.9)
Castor oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-7 (16.2.9), 16.2.3-8 (16.2.7),
Cesium formate solution	*Y*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	15.19.6
Cetyl/Eicosyl methacrylate mixture	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	~~*A*~~*BC*	*No*	15.13, 15.19.6, 16.2.3-~~9.~~7 (16.2.9), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Chlorinated paraffins (C10 – C13)	*X*	*S/P*	1	2*G*	~~*Open*~~ *Cont*	*No*			~~*Yes*~~*NF*	~~*O*~~*C*	~~*No*~~*T*	~~*A*~~ *No*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Chlorinated paraffins (C14 – C17) (with 50 % chlorine or more, and less than 1 % C13 or shorter chains)	*X*	*S/P*	1	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Chloroacetic acid (80 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*C*	~~*No*~~*T*	*No*	~~*No*~~*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12~~.3~~, 15.17, 15.18, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Chlorobenzene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Chloroform	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	~~*Yes*~~ *No*	15.12, 15.17, 15.19.6
Chlorohydrins (crude)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*C*	*F-T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*R*	~~*No*~~*T*	*No*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
o-Chloronitrobenzene	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB* ~~*D*~~*C*	*No*	15.12.3, 15.12.4, ~~15.17, 15.18,~~ 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
1-(4-Chlorophenyl)-4,4-dimethyl-pentan	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
-3- one												*D*		16.2.3-~~9.~~7 (16.2.9)
2-or 3-Chloropropionic acid	*Z*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Chlorosulphonic acid	*Y*	*S/P*	1	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.5, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.18, 15.19 & 15.22.12 (15.19)
m-Chlorotoluene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19)
o-Chlorotoluene	*Y*	~~*S/*~~*P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-*~~*T*~~	*AB C*	*No*	15.19.6
p-Chlorotoluene	*Y*	~~*S/*~~*P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-*~~*T*~~	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Chlorotoluenes (mixed isomers)	*Y*	~~*S/*~~*P*	2	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F-*~~*T*~~	*AB C*	*No*	15.19.6
Choline chloride solutions	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Citric acid (70 % or less)	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Coal tar	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*Yes*	~~*R*~~*C*	~~*No*~~*T*	*BD*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Coal tar naphtha solvent	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*R*~~*C*	*F-T*	*A*~~*D*~~ *BC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Coal tar pitch (molten)	*X*	*S/P*	2	1*G*	*Cont*	*No*	*T*2	II*A*	*Yes*	~~*R*~~*C*	~~*No*~~*T*	*AB CD*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Cocoa butter	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Coconut oil	*Y*	*S/P*	2 (*k*)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Coconut oil fatty acid	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~=~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Coconut oil fatty acid methyl ester	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Copper salt of long chain (C17+) alkanoic acid	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Corn oil	*Y*	*S/P*	2 (*k*)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Cotton seed oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Creosote (coal tar)	*X*	*S/P*	~~2~~1	2*G*	*Cont*	*No*	*T*2	II*A*	*Yes*	~~*R*~~*C*	*T*	*AD*	*No*	15.12~~.3~~, 15.~~12.4~~17, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Cresols (all isomers)	*Y*	*S/P*	~~2~~1	2*G*	~~*Open*~~ *Cont*	*No*	*T*1	II*A*	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~*Yes*	15.12, 15.18, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Cresol/Phenol/Xylenol mixture	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Cresylic acid, dephenolized	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Cresylic acid, sodium salt solution	*Y*	*S/P*	2	2*G*	~~*Open*~~	*No*	*T*4	II*B*	~~*Yes*~~*No*	~~*O*~~*C*	~~*No*~~	~~*No*~~	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ &

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
					Cont						*F-T*	*AC*	*s*	15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Crotonaldehyde	~~Y~~*X*	*S/P*	~~2~~1	~~2G~~ 1*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~R~~*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.18, 15.19~~.6~~ & 15.22.12 (15.19)
1,5,9- Cyclododecatriene	*X*	*S/P*	~~1~~2	2*G*	~~*Cont*~~*Open*	*No*			*Yes*	~~R~~*O*	~~T~~*No*	*AC*	*No*	15.13, 15.19.6 ~~& 15.22.12 (15.19)~~, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Cycloheptane	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Cyclohexane	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Cyclohexane-1, 2-dicarboxylic acid, diisononyl ester	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6 (16.2.6)
Cyclohexane oxidation products, sodium salts solution	*Z*	*P*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	
Cyclohexanol	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Cyclohexanone	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-~~T~~*	*AC*	*No*	15.19.6
Cyclohexanone, Cyclohexanol mixture	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*R*	*F-~~T~~*	*AC*	*No*	15.19.6
Cyclohexyl acetate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	~~*T*4~~ *T2*	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Cyclohexylamine	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~R~~*C*	*F-T*	*AC*	~~No~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
1,3-Cyclopentadiene dimer (molten)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*B*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Cyclopentane	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Cyclopentene	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
p-Cymene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Decahydronaphthalene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Decanoic acid	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Decene	*X*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Decyl acrylate	*X*	*S/P*	1	2*G*	~~*Open*~~ *Cont*	*No*	~~*T3.*~~	~~II*A*.~~	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*~~*D*~~	*No*	15.12.3, 15.12.4, 15.13, 15.19 & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Decyl alcohol (all isomers)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9) (e)
Decyl/Dodecyl/Tetradecyl alcohol mixture	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Decyloxytetrahydrothiophene dioxide	*X*	*S/P*	2	2*G*	~~*Cont*~~*O pen*	*No*			*Yes*	~~*R*~~*O*	~~*T*~~*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Diacetone alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Dialkyl (C8 – C9) diphenylamines	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
Dialkyl (C7 – C13) phthalates	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Dialkyl (C9 – C10) phthalates	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Dialkyl thiophosphates sodium salts solution	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-9.7 (16.2.9)
2, 6-Diaminohexanoic acid phosphonate mixed salts solution	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*NF*	*R*	*No*	*No*	*No*	15.11, 15.17, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Dibromomethane	*Y*	*S/P*	2	2*G*	~~*Cont*~~*Open*	*No*			*NF*	~~*R*~~*O*	~~*T*~~*No*	*No*	*No*	~~15.12.3,~~ 15.19.6 ~~& 15.22.12 (15.19)~~
Dibutylamine	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AB C*~~*D*~~	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Dibutyl hydrogen phosphonate	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
2,6- Di-tert-butylphenol	*X*	*S/P*	~~1~~2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*~~*D*~~	*No*	15.19.6 ~~& 15.22.12 (15.19),~~ 16.2.3-~~9.~~7 (16.2.9)
Dibutyl phthalate	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
Dibutyl terephthalate	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
Dichlorobenzene (all isomers)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*Yes*	~~*R*~~*C*	*T*	*AB D*	*No*	15.12, 15.17, 15.19.6
3,4-Dichloro-1-butene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*C*~~*R*	*F-T*	*AB C*	~~*Yes*~~ *No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19.6
1,1-Dichloroethane	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*~~*-T*~~	*AC*	~~*Yes*~~ *No*	15.19.6
Dichloroethyl ether	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.18, 15.19~~.6~~ & 15.22.12 (15.19)
1,6-Dichlorohexane	*Y*	~~*S/*~~*P*	2	2*G*	~~*Cont*~~*Open*	*No*	-	-	*Yes*	~~*R*~~*O*	~~*T*~~*No*	*AB C*	*No*	15.19.6
2,2'-Dichloroisopropyl ether	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AB C*~~*D*~~	*No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19 & 15.22.12 (15.19)
Dichloromethane	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	~~*Yes*~~*No*	~~*R*~~*C*	*F-T*	~~*No*~~ *AB C*	*No*	15.12, 15.17, 15.19.6
2,4-Dichlorophenol	*Y*	*S/P*	2	2*G*	*Cont*	*Dry*			*Yes*	~~*R*~~*C*	*T*	*AD*	~~*No*~~*Ye*	15.12, 15.16.2 & 15.22.11

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
													s	(15.16.2), 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~*Ye* s	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~*Ye* s	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~*Ye* s	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
1,1-Dichloropropane	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*~~4*T*1	II*A*	*No*	*R*	*F*~~*-T*~~	*AB C*	*No*	~~15.12.~~ 15.19.6
1,2-Dichloropropane	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
1,3-Dichloropropene	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AB C*	*Yes*	15.12, 15.17, ~~15.18,~~ 15.19 & 15.22.12 (15.19)
Dichloropropene/ Dichloropropane mixtures	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AB D*	~~*Yes*~~ *No*	15.12, 15.17, ~~15.18,~~ 15.19 & 15.22.12 (15.19)
2,2-Dichloropropionic acid	*Y*	*S/P*	~~2~~2	2*G*	*Cont*	*Dry*			*Yes*	~~*R*~~*C*	~~*No*~~*T*	*AD*	~~*No*~~*Ye* s	15.11.2, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Dicyclopentadiene, Resin Grade, 81–89 %	*Y*	*S/P*	2	2*G*	*Cont*	*Inert*	*T*2	II*B*	*No*	*C*	*F-T*	*AB C*	*Yes*	15.12, 15.13, 15.17, 15.19& 15.22.12 (15.19)
Diethanolamine	*Y*	*S/P*	3	2*G*	~~*Open*~~	*No*	*T*1	II*A*	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6,

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
					Cont									16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Diethylamine	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19-~~.6~~ & 15.22.12 (15.19)
Diethylaminoethanol	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
2,6-Diethylaniline	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB CD*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Diethylbenzene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Diethylene glycol	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Diethylene glycol dibutyl ether	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Diethylene glycol diethyl ether	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Diethylene glycol phthalate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Diethylenetriamine	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	~~*T2.*~~	~~II*A.*~~	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	*No*	15.12, 15.17, 15.19-~~.6~~ & 15.22.12 (15.19)
Diethylenetriaminepentaacetic acid, pentasodium salt solution	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Diethyl ether	*Z*	*S/P*	2	1*G*	*Cont*	*Inert*	*T*4	II*B*	*No*	~~*G*~~*R*	*F-~~T~~*	*AC*	~~*Yes*~~ *No*	15.4, 15.14 & 15.22.10 (15.14), 15.19 & 15.22.12 (15.19)
Di-(2-ethylhexyl) adipate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Di-(2-ethylhexyl) phosphoric acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AD*	*No*	15.12.3, 15.12.4, 15.19.6
Diethyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Diethyl sulphate	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19-~~.6~~ & 15.22.12 (15.19)
Diglycidyl ether of bisphenol A	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Diglycidyl ether of bisphenol F	*Y*	*S/P*	2	2*G*	*Open Cont*	*No*			*Yes*	*O C*	*No T*	*A C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6. (16.2.6)
Diheptyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Di-n-hexyl adipate	*X*	*S/P*	1	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*A C*	*No*	15.19 & 15.22.12 (15.19)
Dihexyl phthalate	*Y*	*S/P*	2	2*G*	*Open Cont*	*No*			*Yes*	*O C*	*No T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Diisobutylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*R C*	*F-T*	*AB C D*	*No*	15.12.3, 15.12.4, 15.19.6 & 15.22.12 (15.19)
Diisobutylene	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*A C*	*No*	15.19.6
Diisobutyl ketone	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*A C*	*No*	15.12.3, 15.12.4, 15.19.6
Diisobutyl phthalate	*X*	*S/P*	2	2*G*	*Open Cont*	*No*			*Yes*	*O C*	*No T*	*A C*	*No*	15.12, 15.17, 15.19.6
Diisononyl adipate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*A C*	*No*	15.19.6
Diisooctyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6)
Diisopropanolamine	*Z*	*S/P*	3	2*G*	*Open*	*No*	*T2*	*IIA*	*Yes*	*O*	*No*	*A C*	*No*	16.2.3-9.7 (16.2.9)
Diisopropylamine	*Y*	*S/P*	23	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C R*	*F-T*	*A C*	*Yes No*	15.12.3, 15.12.4, 15.17, 15.19.6 & 15.22.12 (15.19)
Diisopropylbenzene (all isomers)	*X*	*S/P*	2	2*G*	*Open Cont*	*No*			*Yes*	*O R*	*No T*	*A C*	*No*	15.12.3, 15.12.4, 15.19.6
Diisopropylnaphthalene	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*A C*	*No*	15.19.6
N,N- Dimethylacetamide	*Z*	*S/P*	3	2*G*	*Cont*	*No*	-	-	*Yes*	*C R*	*T*	*AC D*	*No*	15.12.3, 15.12.4, 15.17 15.19.6
N,N- Dimethylacetamide solution (40 % or less)	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*YesNF*	*R*	*T*	*B No*	*No*	15.12.1, 15.17 15.12.3, 15.12.4, 15.19.6
Dimethyl adipate	*XY*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
Dimethylamine solution (45 % or less)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC D*	*No*	15.12.3, 15.12.4, 15.19.6 & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Dimethylamine solution (greater than 45 % but not greater than 55 %)	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*C*~~*R*	*F-T*	*AC* ~~*D*~~	~~*Yes*~~ *No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19 & 15.22.12 (15.19)
Dimethylamine solution (greater than 55 % but not greater than 65 %)	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*C*~~*R*	*F-T*	*AC* ~~*D*~~	~~*Yes*~~ *No*	15.12.3, 15.12.4, 15.14 & 15.22.10 (15.14), ~~15.17,~~ 15.19 & 15.22.12 (15.19)
N,N-Dimethylcyclohexylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Dimethyl disulphide	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
N,N-Dimethyldodecylamine	~~*X*~~*Y*	*S/P*	~~1~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Dimethylethanolamine	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*A*~~*D*~~ *C*	*No*	15.12.3, 15.12.4, 15.19.6
Dimethylformamide	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*A*~~*D*~~ *C*	*No*	15.12, 15.17, 15.19.6
Dimethyl glutarate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Dimethyl hydrogen phosphite	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*4	II*B*	~~*Yes*~~*No*	*R*	~~*T*~~*F*	*A*~~*D*~~ *C*	*No*	~~15.12.1,~~ 15.19.6
Dimethyl octanoic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Dimethyl phthalate	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Dimethylpolysiloxane	*Y*	*P*	~~3~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
2,2-Dimethylpropane-1,3-diol (molten or solution)	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	16.2.3-~~9.~~7 (16.2.9)
Dimethyl succinate	*Y*	*P*	~~3~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Dinitrotoluene (molten)	*X*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*No*	15.12, 15.17,

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														15.19 & 15.22.12 (15.19), 15.21, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.7-4~~.~~ (16.6.4)
Dinonyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Dioctyl phthalate	~~*X*~~*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
1,4-Dioxane	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6~~ & 15.22.12 (15.19)~~, 16.2.3-~~9.~~7 (16.2.9)
Dipentene	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*B*~~*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Diphenyl	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Diphenylamine (molten)	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*~~*D*~~	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Diphenylamine, reaction product with 2,2,4-Trimethylpentene	*Y*	*S/P*	~~1~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Diphenylamines, alkylated	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Diphenyl/Diphenyl ether mixtures	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Diphenyl ether	*X*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Diphenyl ether/Diphenyl phenyl ether mixture	*X*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Diphenylmethane diisocyanate	*Y*	*S/P*	2	2*G*	*Cont*	*Dry*	-	-	*Yes(a)*	*C*	*T(a)*	*AB* ~~*C*~~*(b)D*	~~*No*~~*Ye s*	15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														16.2.3-~~9.~~7 (16.2.9)
Diphenylol propane-epichlorohydrin resins	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Di-n-propylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*No*~~*Yes*	15.12.3, 15.12.4, 15.17, 15.19.6
Dipropylene glycol	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Dithiocarbamate ester (C7–C35)	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*~~*D*~~	*No*	15.19.6~~, 16.2.3-9. (16.2.9)~~
Ditridecyl adipate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Ditridecyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Diundecyl phthalate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Dodecane (all isomers)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
tert-Dodecanethiol	~~*X*~~*Y*	*S/P*	~~1~~3	2*G*	*Cont*	*No*	~~-~~	~~-~~	*Yes*	~~*C*~~*R*	*T*	*AB C*~~*D*~~	~~*Yes*~~ *No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19.6 ~~& 15.22.12 (15.19)~~
1-Dodecene	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Dodecene (all isomers)	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Dodecyl alcohol	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
n-Dodecyl mercaptan	*X*	*S/P*	1	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Dodecylamine/Tetradecylamine mixture	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*AB C*~~*D*~~	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Dodecylbenzene	~~*Z*~~*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB*	*No*	15.12.3, 15.12.4, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
					Cont							*C*		
Dodecyl diphenyl ether disulphonate solution	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Dodecyl hydroxypropyl sulphide	*X*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Dodecyl methacrylate	~~*Z*~~*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.13, 15.19.6
Dodecyl/Octadecyl methacrylate mixture	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.13, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Dodecyl/Pentadecyl methacrylate mixture	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*A*~~*D*~~ *BC*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Dodecyl phenol	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Dodecyl Xylene	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Drilling brines (containing zinc ~~salts~~ chloride)	*X*	*S/P*	2	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	*No*	~~*No*~~ *Yes*	15.19.6
Drilling brines~~, including~~(containing calcium bromide) ~~solution,calcium chloride solution and sodium chloride solution~~	*Z*	*S/P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	~~*A*~~ *No*	*No*	15.19.6
Epichlorohydrin	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19&15.22.12(15.19)
Ethanolamine	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	*T*2	II*A*	*Yes*	~~*O*~~*C*	*F-T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
2-Ethoxyethyl acetate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
Ethoxylated long chain (C16+)	*Y*	*S/P*	2	2*G*	~~*Open*~~	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB*	~~*No*~~	15.12, 15.17, 15.19~~.6~~ &

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
alkyloxyalkylamine					*Cont*							*C*	*Yes*	15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Ethoxylated tallow amine (>95 %)	*X*	*S/P*	2	2*G*	*Cont*	*Inert*	-	-	*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Ethyl acetate	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Ethyl acetoacetate	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Ethyl acrylate	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12, 15.13, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Ethylamine	*Y*	*S/P*	2	1*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F~~-T~~*	*AC ~~D~~*	~~*Yes*~~ *No*	15.12.3(2) (15.12.3.2), 15.14 & 15.22.10 (15.14), 15.19~~.6~~ & 15.22.12 (15.19)
Ethylamine solutions (72 % or less)	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F~~-T~~*	*AC*	~~*Yes*~~ *No*	15.12.3(2) (15.12.3.2), 15.14 & 15.22.10 (15.14), ~~15.17,~~ 15.19 & 15.22.12 (15.19)
Ethyl amyl ketone	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Ethylbenzene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
Ethyl tert-butyl ether	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Ethyl butyrate	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	~~*T*4~~*T*2	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Ethylcyclohexane	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*4~~*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
N- Ethylcyclohexylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19)
S-Ethyl dipropylthiocarbamate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Ethylene carbonate	*Z*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6,

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														16.2.3-7 (16.2.9)
Ethylene chlorohydrin	*Y*	*S/P*	~~2~~1	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*A~~D~~ C*	*Yes*	15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19)
Ethylene cyanohydrin	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*		II*B*	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Ethylenediamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Ethylenediaminetetraacetic acid, tetrasodium salt solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Ethylene dibromide	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	~~*Yes*~~ *No*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Ethylene dichloride	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Ethylene glycol	~~*Y*~~*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Ethylene glycol acetate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Ethylene glycol butyl ether acetate	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Ethylene glycol diacetate	*Y*	*S/P*	~~3~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Ethylene glycol methyl ether acetate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
Ethylene glycol monoalkyl ethers	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Ethylene glycol phenyl ether	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Ethylene glycol (>75 %)/sodium alkyl	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*No*	15.12, 15.17, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
carboxylates/borax mixture														
Ethylene glycol (>85 %)/sodium alkyl carboxylates mixture	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	*Y*	*S/P*	2	1*G*	*Cont*	*Inert*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	~~*No*~~ *Yes*	15.8 & 15.22.8 (15.8), 15.12, 15.14 & 15.22.10 (15.14), 15.17, 15.19 & 15.22.12 (15.19)
Ethylene-vinyl acetate copolymer (emulsion)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Ethyl-3- ethoxypropionate	*Y*	*P*	~~*3*~~*2*	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	~~*No*~~*F*	*AC*	*No*	15.19.6
2-Ethylhexanoic acid	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
2-Ethylhexyl acrylate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	~~*T3.*~~	~~*IIB.*~~	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
2-Ethylhexylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19.6
2-Ethyl-2- (hydroxymethyl) propane-1,3-diol~~,~~ (C8–C10) ester	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Ethylidene norbornene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	*R*	*F-T*	*A*~~*D*~~*BC*	*No*	15.12.~~1~~3, 15.12.4, 15.19.6
Ethyl methacrylate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*~~*-T*~~	*A*~~*D*~~*BC*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
N- Ethylmethylallylamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19 & 15.22.12 (15.19)
Ethyl propionate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
2-Ethyl-3- propylacrolein	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*~~*-T*~~	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Ethyl toluene	*Y*	*P*	2	2*G*	*Cont*	*No*	~~*T4*~~*T1*	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Fatty acid (saturated C13+)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Fatty acid methyl esters (m)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Fatty acids, (C8–C10)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	~~*R*~~*C*	*T*	*AB C*	~~*No*~~ *Yes*	15.12~~.3~~, ~~15.12.4~~15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Fatty acids, (C12+)	*Y*	*S/P*	2	2*G*	~~*Cont*~~*Open*	*No*	-	-	*Yes*	~~*R*~~*O*	~~*T*~~*No*	*AB C*	*No*	~~15.12.3, 15.12.4,~~ 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Fatty acids, (C16+)	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Fatty acids, essentially linear (C6–C18)~~,~~ 2-ethylhexyl ester	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Ferric chloride solutions	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.11, 15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19),16.2.3-~~9.~~7 (16.2.9)
Ferric nitrate/Nitric acid solution	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.17, 15.19 & 15.22.12 (15.19)
Fish oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Fish silage protein concentrate (containing 4 % or less formic acid)	*Y*	*P*	2	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	15.19.6, 16.2.3-6 (16.2.6)
Fish protein concentrate (containing 4 % or less formic acid)	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Fluorosilicic acid solution (20–30 %) ~~in water solution~~	*Y*	*S/P*	3	~~1~~*G* 2*G*	*Cont*	*No*	-	-	*NF*	~~R~~*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Formaldehyde solutions (45 % or less)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~R~~*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Formamide	*Y*	*S/P*	3	2*G*	~~Open~~ *Cont*	*No*			*Yes*	~~O~~*C*	~~No~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Formic acid (85 % or less acid)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	-	-	*Yes*	~~R~~*C*	*T*(g)	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-9.7 (16.2.9)
Formic acid (over 85 %)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~R~~*C*	*F-T* (g)	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-9.7 (16.2.9)
Formic acid mixture (containing up to 18 % propionic acid and up to 25 % sodium formate)	*Z*	*S/P*	3	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*(g)	*AC*	*No*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.12.4, 15.19.6
Furfural	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~R~~*C*	*F-T*	*AC*	~~No~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Furfuryl alcohol	*Y*	*S/P*	3	2*G*	~~Open~~ *Cont*	*No*	-	-	*Yes*	~~O~~*C*	~~No~~*T*	*AC*	~~No~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Glucitol/glycerol blend propoxylated (containing less than 10 % amines)	*Z*	*S/P*	3	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Glucitol/glycerol blend propoxylated (containing 10 % or more amines)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6 (16.2.6)
Glutaraldehyde solutions (50 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Glycerine	*Z*	*S*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	16.2.3-7 (16.2.9)
Glycerol monooleate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6~~=~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Glycerol propoxylated	*Z*	*S/P*	3	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Glycerol, propoxylated and ethoxylated	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	
Glycerol/sucrose blend propoxylated and ethoxylated	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	
Glyceryl triacetate	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Glycidyl ester of C10 trialkylacetic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Glycine, sodium salt solution	*Z*	*S/P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	~~*A*~~ *No*	*No*	
Glycolic acid solution (70 % or less)	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12.3, 15.12.4, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Glyoxal solution (40 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														16.2.3-~~9.~~7 (16.2.9)
Glyoxylic acid solution (50 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC D*	~~*No*~~ *Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)
Glyphosate solution (not containing surfactant)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Grape seed oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-8 (16.2.7)
Groundnut oil	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Heptane (all isomers)	*X*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6~~, 16.2.3-9. (16.2.9)~~
n-Heptanoic acid	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	*No*	*AB C*	*No*	15.19.6, 15.17
Heptanol (all isomers) (d)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Heptene (all isomers)	*Y*	*P*	~~3~~2	2*G*	*Cont*	*No*	~~*T*4~~*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Heptyl acetate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
1-Hexadecylnaphthalene / 1,4-bis(hexadecyl)naphthalene mixture	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Hexamethylenediamine (molten)	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, ~~15.18,~~ 15.19 &15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Hexamethylenediamine adipate (50 % in water)	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Hexamethylenediamine solution	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Hexamethylene diisocyanate	*Y*	*S/P*	2	~~1*G*~~ 2*G*	*Cont*	*Dry*	*T*1	II*B*	*Yes*	*C*	*T*	*AC (b) D*	*Yes*	15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.18, 15.19 & 15.22.12 (15.19)
Hexamethylene glycol	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Hexamethyleneimine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T4*~~ *T2*	II*B*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19)
Hexamethylenetetramine solutions	*Z*	*S*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Hexane (all isomers)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
1,6-Hexanediol, distillation overheads	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Hexanoic acid	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Hexanol	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Hexene (all isomers)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Hexyl acetate	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Hexylene glycol	*Z*	*S*	3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Hydrocarbon wax	*X*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AB C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Hydrochloric acid	*Z*	*S/P*	3	1*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.17, 15.19 & 15.22.12 (15.19)
Hydrogen peroxide solutions (over 60 % but not over 70 % by mass)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*C*~~*R*	~~*No*~~*T*	*No*	*No*	15.5.1 & 15.22.4 (15.5.1), 15.12.3, 15.12.4, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Hydrogen peroxide solutions (over 8 % but not over 60 % by mass)	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*NF*	~~*C*~~*R*	~~*No*~~*T*	*No*	*No*	15.5.2 & 15.22.5 (15.5.2), 15.12.3, 15.12.4, 15.18, 15.19.6
2-Hydroxyethyl acrylate	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.13, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.7-1. (16.6.1), 16.2.7-2. (16.6.2)
N-(Hydroxyethyl)ethylenediaminetri-acetic acid, trisodium salt solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
2-Hydroxy-4-(methylthio)butanoic acid	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Illipe oil	*Y*	*P*	2(k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Isoamyl alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
Isobutyl alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
Isobutyl formate	*Z*	*P*	3	2*G*	*Cont*	*No*	~~*T4*~~*T2*	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
Isobutyl methacrylate	*Z*	*S/P*	3	2*G*	*Cont*	*No*	~~*T2*~~*T1*	II*A*	*No*	*R*	*F*	*ABC*	*No*	~~15.12,~~ 15.13, ~~15.17,~~ 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Isophorone	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Isophoronediamine	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Isophorone diisocyanate	~~*X*~~*Y*	*S/P*	2	2*G*	*Cont*	*Dry*			*Yes*	*C*	*T*	*ABD*	~~*No*~~ *Yes*	15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19~~.6~~

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														& 15.22.12 (15.19)
Isoprene	*Y*	*S/P*	~~2~~2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~R~~*C*	*F-T*	*AB C*	*No*	15.12, 15.13, 15.14 & 15.22.10 (15.14), 15.17, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
Isopropanolamine	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	*T*2	II*A*	*Yes*	~~O~~*R*	~~*F-T*~~ *No*	*AC*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Isopropyl acetate	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Isopropylamine	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AC* ~~*D*~~	~~*Yes*~~ *No*	15.12.3(2) (15.12.3.2), 15.14 & 15.22.10 (15.14), 15.19 & 15.22.12 (15.19)
Isopropylamine (70 % or less) solution	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AC* ~~*D*~~	~~*Yes*~~ *No*	15.12.3(2) (15.12.3.2), 15.19~~.6~~ & 15.22.12 (15.19)~~, 16.2.3-9. (16.2.9)~~
Isopropylcyclohexane	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*4~~*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Isopropyl ether	*Y*	*S/P*	3	2*G*	*Cont*	*Inert*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.4.6, 15.13~~.3~~, 15.19.6, 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)
Jatropha oil	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-8 (16.2.7)
Lactic acid	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~O~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Lactonitrile solution (80 % or less)	*Y*	*S/P*	~~2~~1	1*G*	*Cont*	*No*			~~*Yes*~~*NF*	*C*	*T*	~~*AC D*~~ *No*	*Yes*	15.12, 15.13, 15.17, 15.18, 15.19 & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Lard	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Latex, ammonia (1 % or less)-inhibited	*Y*	*S/P*	~~3~~2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Latex: Carboxylated styrene-Butadiene copolymer; Styrene- Butadiene rubber	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Lauric acid	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Ligninsulphonic acid, magnesium salt solution	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Ligninsulphonic acid, sodium salt solution	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Linseed oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Liquid chemical wastes	*X*	*S/P*	2	2*G*	*Cont*	*No*			*No*	*C*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), (20.5.1), (20.7)
Long-chain alkaryl polyether (C11–C20)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Long-chain alkaryl sulphonic acid (C16–C60)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Long-chain alkylphenate/Phenol sulphide mixture	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Long-chain alkylphenol (C14–C18)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6 (16.2.6)
Long-chain alkylphenol (C18–C30)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	*T*	*AB*	*No*	15.12.3, 15.12.4, 15.19.6,

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C		16.2.3-6 (16.2.6)
L-Lysine solution (60 % or less)	Z	P	3	2G	Open	No			Yes	O	No	AC	No	
Magnesium chloride solution	Z	P	3	2G	Open	No			Yes	O	No	AC	No	
Magnesium hydroxide slurry	Z	S	3	2G	Open	No	-	-	NF	O	No	No	No	16.2.3-7 (16.2.9)
Magnesium long-chain alkaryl sulphonate (C11–C50)	Y	S/P	2	2G	~~Open~~ Cont	No	-	-	Yes	~~O~~R	~~No~~T	AC	No	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Magnesium long-chain alkyl salicylate (C11+)	Y	S/P	2	2G	Open	No			Yes	O	No	ABC	No	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Maleic anhydride	Y	S/P	3	2G	Cont	No			Yes	~~R~~C	~~No~~T	AC (f)	~~No~~Yes	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Maleic anhydride-sodium allylsulphonate copolymer solution	Z	P	3	2G	Open	No			Yes	O	No	ABC	No	
Mango kernel oil	Y	P	2(k)	2G	Open	No	-	-	Yes	O	No	ABC	No	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Mercaptobenzothiazol, sodium salt solution	X	S/P	2	2G	Open	No			NF	O	No	No	No	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Mesityl oxide	Z	S/P	3	2G	Cont	No	T2	IIB	No	R	F-T	AC	No	15.12.3, 15.12.4, 15.19.6
Metam sodium solution	X	S/P	2	2G	Cont	No	-	-	NF	C	T	No	~~Yes~~ No	~~15.12,~~ 15.12.3, 15.12.4, ~~15.17,~~ 15.19 &15.22.12 (15.19)
Methacrylic acid	Y	S/P	3	2G	Cont	No			Yes	~~R~~C	T	AC	No	15.13, 15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9), 16.2.7-1~~.~~ (16.6.1)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
Methacrylic acid - alkoxypoly (alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45 % or less)	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	~~*AC*~~ *No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Methacrylic resin in Ethylene dichloride	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Methacrylonitrile	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.13, 15.17, 15.19 & 15.22.12 (15.19)
3-Methoxy-1-butanol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
3-Methoxybutyl acetate	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
N-(2-Methoxy-1- methyl ethyl)-2-ethyl -6-methyl chloroacetanilide	*X*	*S/P*	1	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Methyl acetate	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Methyl acetoacetate	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Methyl acrylate	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*1	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12, 15.17, 15.13, 15.19~~.6~~ & 15.22.12 (15.19)~~, 16.2.7-1, (16.6.1), 16.2.7-2. (16.6.2)~~
Methyl alcohol	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12.1, 15.12.2, 15.12.3(2) (15.12.3.2), 15.12.3(2) (15.12.3.3), 15.12.4, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Methylamine solutions (42 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*C*	*F-T*	*AC* ~~*D*~~	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Methylamyl acetate	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Methylamyl alcohol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AB*	*No*	15.12.3, 15.12.4, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C		
Methyl amyl ketone	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
N-Methylaniline	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
alpha-Methylbenzyl alcohol with acetophenone (15 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*ABC*	*Yes*	15.12, 15.17, 15.19&15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-9.7 (16.2.9)
Methylbutenol	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Methyl tert-butyl ether	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6
Methyl butyl ketone	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*ABC*	*No*	15.12, 15.17, 15.19.6
Methylbutynol	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Methyl butyrate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Methylcyclohexane	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Methylcyclopentadiene dimer	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
Methylcyclopentadienyl manganese tricarbonyl	*X*	*S/P*	~~1~~2	~~1G~~ 2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*ABC~~D~~*	*Yes*	15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Methyl diethanolamine	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
2-Methyl-6-ethyl aniline	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC~~D~~*	*No*	15.12.3, 15.12.4, 15.19.6
Methyl ethyl ketone	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
2-Methyl-5-ethyl pyridine	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*	-	~~II*A*~~-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*ABC~~D~~*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Methyl formate	*Z*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AC*	~~*Yes*~~ *No*	~~15.12,~~ 15.12.3, 15.12.4, 15.14 & 15.22.10 (15.14), 15.19.6~~& 15.22.12 (15.19)~~
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12 % or less)	*Z*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
2-Methyl-2-hydroxy-3-butyne	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F~~-T~~*	*AC ~~BD~~*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Methyl isobutyl ketone	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Methyl methacrylate	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F~~-T~~*	*AC*	*No*	15.13, 15.19.6~~, 16.2.7 1. (16.6.1), 16.2.7 2. (16.6.2)~~
3-Methyl-3-methoxybutanol	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Methyl naphthalene (molten)	*X*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	~~*No*~~*T*	*AB C~~D~~*	*No*	15.12.3, 15.12.4, 15.19.6
N-Methylglucamine solution (70 % or less)	*Z*	*S*	3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-7 (16.2.9)
2-Methyl-1,3-propanediol	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
2-Methylpyridine	*Z*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F*	*AC*	*No*	15.12.3(2) (15.12.3.2), 15.19~~.6~~ & 15.22.12 (15.19)
3-Methylpyridine	*Z*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19)
4-Methylpyridine	*Z*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
N-Methyl-2-pyrrolidone	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
Methyl propyl ketone	*Z*	*S*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Methyl salicylate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
alpha-Methylstyrene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*B*	*No*	~~*R*~~*C*	*F-T*	*AD (j)*	*No*	15.12, 15.13, 15.17, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
3-(methylthio)propionaldehyde	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	~~*C*~~*R*	*F-T*	*ABC*	~~*Yes*~~ *No*	15.12, 15.17, 15.19.6 ~~& 15.22.12 (15.19)~~
Molybdenum ~~Polysulfide~~polysulphide Long chain alkyl dithiocarbamide complex	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	~~*C*~~*R*	*T*	*ABC*	~~*Yes*~~ *No*	~~15.12,~~ 15.12.3, 15.12.4, ~~15.17,~~ 15.19.6 ~~& 15.22.12 (15.19)~~, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Morpholine	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19~~.6~~ & 15.22.12 (15.19)
Motor fuel anti-knock compound~~s~~ (containing lead alkyls)	*X*	*S/P*	1	1*G*	*Cont*	~~*No*~~*Inert*	*T*4	II*A*	*No*	*C*	*F-T*	*AC*	*Yes*	15.6 & 15.22.6 (15.6), 15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19)
Myrcene	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Naphthalene (molten)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*Yes*	~~*R*~~*C*	~~*No*~~*T*	~~*A*~~*BC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Naphthalene crude (molten)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*ABC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Naphthalenesulphonic acid-Formaldehyde copolymer, sodium salt solution	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Neodecanoic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Nitrating acid (mixture of sulphuric and nitric acids)	*Y*	*S/P*	~~2~~1	~~2*G*~~ 1*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17,

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														15.18, 15.19 & 15.22.12 (15.19)
Nitric acid (70 % and over)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19 & 15.22.12 (15.19)
Nitric acid (less than 70 %)	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	*Yes*	15.11, 15.12, 15.17, 15.19 & 15.22.12 (15.19)
Nitrilotriacetic acid, trisodium salt solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	*No*	15.12, 15.17, 15.19.6
Nitrobenzene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T1.*~~	~~II~~*A*	*Yes*	*C*	*T*	*AB CD*	*No*	15.12, 15.17, ~~15.18,~~ 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Nitroethane	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F-T*	*AB C (f)*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-4~~.~~ (16.6.4)
Nitroethane (80 %)/ Nitropropane (20 %)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F-T*	*AB C (f)*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)
Nitroethane, 1-Nitropropane (each 15 % or more) mixture	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	*R*	*F-T*	*AB C (f)*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.~~3~~6.3)
o-Nitrophenol (molten)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	~~*Yes*~~*No*	~~*G*~~*R*	~~*T*~~*F*	*AB CD*	*No*	~~15.12,~~ 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
1-or 2-Nitropropane	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Nitropropane(60 %)/ Nitroethane (40 %) mixture	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	~~*T4*~~*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												(f)		
o-or p-Nitrotoluenes	*Y*	*S/P*	2	2*G*	*Cont*	*No*		II*B*	*Yes*	*C*	*T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Nonane (all isomers)	*X*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*~~4*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Nonanoic acid (all isomers)	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Non-edible industrial grade palm oil	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Nonene (all isomers)	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Nonyl alcohol (all isomers)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Nonyl methacrylate monomer	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Nonylphenol	*X*	*S/P*	1	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Nonylphenol poly (4+) ethoxylate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Noxious liquid, NF, (1) n.o.s. (trade name ...., contains ....) ST1, Cat. X	*X*	*P*	1	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Noxious liquid, F, (2) n.o.s. (trade name ...., contains ....) ST1, Cat. X	*X*	*P*	1	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Noxious liquid, NF, (3) n.o.s. (trade name ...., contains ....) ST2, Cat. X	*X*	*P*	2	2*G*	*Open*	*No*	-		*Yes*	*O*	*No*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Noxious liquid, F, (4) n.o.s. (trade name ...., contains ....) ST2, Cat. X	*X*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Noxious liquid, NF, (5) n.o.s. (trade name ...., contains ....) ST2, Cat. Y	*Y*	*P*	2	2*G*	*Open*	*No*	-		*Yes*	*O*	*No*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)(l)
Noxious liquid, F, (6) n.o.s. (trade name ...., contains ....) ST2, Cat. Y	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)(l)
Noxious liquid, NF, (7) n.o.s. (trade name ...., contains ....) ST3, Cat. Y	*Y*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)(l)
Noxious liquid, F, (8) n.o.s. (trade name ...., contains ....) ST3, Cat. Y	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19 & 15.22.12 (15.19), 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)(l)
Noxious liquid, NF, (9) n.o.s. (trade name ...., contains ....) ST3, Cat. Z	*Z*	*P*	3	2*G*	*Open*	*No*	-		*Yes*	*O*	*No*	*AC*	*No*	
Noxious liquid, F, (10) n.o.s. (trade name ...., contains ....) ST3, Cat. Z	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Octamethylcyclotetrasiloxane	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
Octane (all isomers)	*X*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Octanoic acid (all isomers)	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*ABC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Octanol (all isomers)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Octene (all isomers)	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
n-Octyl acetate	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
Octyl aldehydes	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*R*	*F*	*AC*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
Octyl decyl adipate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-9.7 (16.2.9)
n-Octyl mercaptan	*X*	*S/P*	1	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB*	*No*	15.19 & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
												C		
Offshore contaminated bulk liquid P (o)	*X*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Offshore contaminated bulk liquid S (o)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.15, 15.17, 15.19 & 15.22.12 (15.19)
Olefin-Alkyl ester copolymer (molecular weight 2000+)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6.~~.~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Olefin Mixture (C7–C9) C8 rich, ~~stabilised~~stabilized	*X*	~~*S/*~~*P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	*R*	*F*	*AB C*	*No*	15.13, 15.19.6
Olefin mixtures (C5–C7)	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.19.6
Olefin mixtures (C5–C15)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Olefins (C13+, all isomers)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
alpha-Olefins (C6–C18) mixtures	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Oleic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Oleum	*Y*	*S/P*	2	2*G*	*Cont*	~~*No*~~*Dry*	-	-	*NF*	*C*	*T*	*No*	*Yes*	15.11.2～15.11.8, 15.12.~~1.~~, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6.~~.~~ (16.2.6)
Oleylamine	*X*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Olive oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6.~~.~~(16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Oxygenated aliphatic hydrocarbon mixture	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Palm acid oil	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm fatty acid distillate	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm kernel acid oil	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm kernel fatty acid distillate	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*R*	*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm kernel oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm kernel olein	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm kernel stearin	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm mid-fraction	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm oil	*Y*	~~*S/P*~~	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm oil fatty acid methyl ester	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
Palm olein	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
Palm stearin	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7),
~~Paraffin wax~~	~~*Y*~~	~~*P*~~	~~2~~	~~2*G*~~	~~*Open*~~	~~*No*~~			~~*Yes*~~	~~*O*~~	~~*No*~~	~~*AB*~~	~~*No*~~	~~15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9. (16.2.9)~~
Paraffin wax, highly-refined	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9), 16.2.3-8 (16.2.7)
Paraffin wax, semi-refined	*X*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*Yes*	*C*	*T*	*AB C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Paraldehyde	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	*R*	*F*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Paraldehyde-ammonia reaction product	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T4*~~*T1*	II*B*	*No*	*C*	*F-T*	*AB C*	~~*No*~~ *Yes*	15.12~~.3~~, 15.17, 15.19 & 15.22.12 (15.19)
Pentachloroethane	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	*No*	15.12, 15.17, 15.19.6
1,3-Pentadiene	*Y*	~~*S/*~~*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*~~*T*~~	*AB C*	*No*	15.13, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)
1,3-Pentadiene(greater than 50 %), cyclopentene and isomers, mixtures	*Y*	*S/P*	2	2*G*	*Cont*	*Inert*	*T*3	II*B*	*No*	*C*	*F-T*	*AB C*	*Yes*	15.12, 15.13, 15.17, 15.19 & 15.22.12 (15.19)
Pentaethylenehexamine	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Pentane (all isomers)	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	15.14 & 15.22.10 (15.14), 15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Pentanoic acid	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
n-Pentanoic acid (64 %)/2-Methyl butyric acid (36 %) mixture	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	~~*T2*~~		*Yes*	*C*	~~*No*~~*T*	*A*~~*D*~~ *BC*	~~*No*~~ *Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12~~.3~~, 15.17, 15.19 & 15.22.12 (15.19)
Pentene (all isomers)	*Y*	*P*	~~3~~2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AC*	*No*	15.14 & 15.22.10 (15.14), 15.19.6
n-Pentyl propionate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	~~*T4*~~*T2*	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Perchloroethylene	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	~~*R*~~*C*	*T*	*No*	*No*	~~15.12.1, 15.12.2,~~ 15.12, 15.17, 15.19.6
~~*Petrolatum*~~	~~*Y*~~	~~*P*~~	~~3~~	~~*2G*~~	~~*Open*~~	~~*No*~~	~~-~~	~~-~~	~~*Yes*~~	~~*O*~~	~~*No*~~	~~*A*~~	~~*No*~~	~~15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9. (16.2.9)~~
Phenol	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*Yes*	*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
1-Phenyl-1-xylyl ethane	*Y*	*S/P*	~~3~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Phosphate esters, alkyl (C12–C14) amine	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Phosphoric acid	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.11.1, 15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Phosphorus (yellow or white)	*X*	*S/P*	1	1*G*	*Cont*	*Pad+(vent or inert)*			*No(c)*	*C*	*No*	*AB C*	~~*Yes*~~ *No*	15.7 & 15.22.7 (15.7), 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Phthalic anhydride (molten)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*Yes*	~~*R*~~*C*	~~*No*~~*T*	*AB*	~~*No*~~	15.12, 15.17, 15.19~~.6~~ &

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C~~D~~	*Yes*	15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
alpha-Pinene	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
beta-Pinene	*X*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*4~~*T*1	II*B*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Pine oil	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Piperazine, 68 % solution	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Polyacrylic acid solution (40 % or less)	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Polyalkyl (C18–C22) acrylate in xylene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*4~~*T*1	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Poly (2-8) alkylene glycol monoalkyl (C1–C6) ether	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Poly (2-8) alkylene glycol monoalkyl (C1–C6) ether acetate	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Polyalkyl (C10–C20) methacrylate	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Polyalkyl (C10–C18) methacrylate/ethylene-propylene copolymer mixture	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyaluminium chloride solution	*Z*	*S*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	
Polybutene	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Polybutenyl succinimide	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Poly(2+)cyclic aromatics	*X*	*S/P*	1	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	~~*No*~~*T*	*AB C*~~*D*~~	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyether (molecular weight 1350+)	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Polyethylene glycol	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Polyethylene glycol dimethyl ether	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Poly(ethylene glycol) methylbutenyl ether (MW>1000)	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Polyethylene polyamines	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)
Polyeth~~e~~ylene polyamines (more than 50 % C5–C20 paraffin oil)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Polyferric sulphate solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Poly (iminoethylene) -graft-N-poly (ethyleneoxy) solution (90 % or less)	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	~~*AC*~~ *No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Polyisobutenamine in aliphatic (C10–C14) solvent	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*	~~*T3.*~~	~~II*A*.~~	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
(Polyisobutene) amino products in aliphatic hydrocarbons	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6)
Polyisobutenyl anhydride adduct	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
~~Poly(4+)isobutylene~~	~~*Y*~~	~~*P*~~	~~2~~	~~2*G*~~	~~*Open*~~	~~*No*~~			~~*Yes*~~	~~*O*~~	~~*No*~~	~~*AB*~~	~~*No*~~	~~15.19.6, 16.2.3-9. (16.2.9)~~
Poly(4+)isobutylene (MW>224)	*X*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6.(16.2.6), 16.2.3-7 (16.2.9)
Polyisobutylene (MW≤224)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-7 (16.2.9)
Polyglycerin, sodium salt solution (containing less than 3 % sodium hydroxide)	*Z*	*S*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AC*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-7 (16.2.9)
Polymethylene polyphenyl isocyanate	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*Dry*			*Yes(a)*	*C*	*T(a)*	*AD*	~~*No*~~ *Yes*	15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Polyolefin (molecular weight 300+)	*Y*	~~*S/*~~*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin amide alkeneamine (C17+)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Polyolefin amide alkeneamine borate (C28–C250)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin amide alkeneamine polyol	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefinamine (C28–C250)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Polyolefinamine in alkyl (C2–C4) benzenes	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*~~4*T*2	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefinamine in aromatic solvent	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*~~4*T*2	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin aminoester salts (molecular weight 2000+)	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9. (16.2.9)
Polyolefin anhydride	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin ester (C28–C250)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin phenolic amine (C28–C250)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Polyolefin phosphorosulphide, barium derivative (C28–C250)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Poly(20)oxyethylene sorbitan monooleate	*Y*	*P*	~~2~~3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Poly(5+)propylene	*Y*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB*	*No*	15.19.6, 16.2.3-~~9.~~7

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C		(16.2.9)
Polypropylene glycol	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Polysiloxane	*Y*	*P*	~~3~~2	2*G*	*Cont*	*No*	~~*T4*~~*T2*	II*B*	*No*	*R*	*F*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Potassium chloride solution	*Z*	~~*S/*~~*P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	~~*A.*~~ *No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Potassium hydroxide solution	*Y*	*S/P*	3	2*G*	*Open*	*No*			*NF*	~~*O*~~*C*	*No*	*No*	*No*	15.12.3(2) (15.12.3.2) , 15.19~~.6~~ & 15.22.12 (15.19)
Potassium formate solutions	*Z*	*S*	3	2*G*	*Open*	*No*			*NF*	*R*	*No*	*No*	*No*	15.19.6
Potassium oleate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Potassium thiosulphate (50 % or less)	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*R*	~~*No*~~*T*	*No*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
n-Propanolamine	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*~~*D*~~	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
2-Propene-1-aminium,N,N-dimethyl-N-2-propenyl-,chloride, homopolymer solution	*Y*	~~*S/*~~*P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	15.19.6
beta-Propiolactone	*Y*	*S/P*	~~3~~1	2*G*	*Cont*	*No*		II*A*	*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.18, 15.19~~.6~~ & 15.22.12 (15.19)
Propionaldehyde	*Y*	*S/P*	3	2*G*	*Cont*	~~*No*~~*Inert*	*T*4	II*B*	*No*	*R*	*F*~~*-T*~~	*AC*	~~*Yes*~~ *No*	~~15.17,~~ 15.19.6
Propionic acid	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*Yes*	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Propionic anhydride	*Y*	*S/P*	~~3~~2	2*G*	*Cont*	*No*	*T*2	II*A*	*Yes*	~~*R*~~*C*	*T*	*AC*	~~*No*~~	15.12, 15.17, 15.19~~.6~~ &

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
													Yes	15.22.12 (15.19)
Propionitrile	*Y*	*S/P*	~~2~~1	1*G*	*Cont*	*No*	*T*1	II*B*	*No*	*C*	*F-T*	*AC* ~~*D*~~	*Yes*	15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19)
n-Propyl acetate	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
n-propyl alcohol	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
n-Propylamine	*Z*	*S/P*	2	2*G*	*Cont*	*Inert*	*T*2	II*A*	*No*	*C*	*F-T*	*AC* ~~*D*~~	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Propylbenzene (all isomers)	*Y*	*P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Propylene carbonate	*Z*	*S*	3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Propylene glycol methyl ether acetate	*Z*	*P*	3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F*	*AC*	*No*	
Propylene glycol monoalkyl ether	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	~~*A*~~*B C*	*No*	15.19.6
Propylene glycol phenyl ether	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
Propylene oxide	*Y*	*S/P*	2	2*G*	*Cont*	*Inert*	*T*2	II*B*	*No*	*C*	*F-T*	*AC*	*No*	15.8 & 15.22.8 (15.8), 15.12~~.1~~, 15.14 & 15.22.10 (15.14), 15.17, 15.19 & 15.22.12 (15.19)
Propylene tetramer	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Propylene trimer	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6
Pyridine	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Pyrolysis gasoline (containing benzene)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T3*	II*A*	*No*	*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Rapeseed oil	*Y*	~~*S/*~~*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
			(k)									*C*		16.2.3-~~9.~~7 (16.2.9), 16.2.3-8(16.2.7)
Rapeseed oil (low erucic acid containing less than 4 % free fatty acids)	*Y*	~~*S/*~~*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8(16.2.7)
Rape seed oil fatty acid methyl esters	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Resin oil, distilled	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AB C*	*No*	15.12, 15.17, 15.19.6
Rice bran oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8(16.2.7)
Rosin	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Safflower oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8(16.2.7)
Shea butter	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2~~.~~.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8(16.2.7)
Sodium alkyl (C14–C17) sulphonates (60 – 65 % solution)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*R*	~~*No*~~*T*	*No*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Sodium aluminosilicate slurry	*Z*	*P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	~~*AB*~~ *No*	*No*	16.2.3-7 (16.2.9)
Sodium benzoate	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	16.2.3-7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 ℃*					
Sodium borohydride (15 % or less)/Sodium hydroxide solution	*Y*	*S/P*	3	2*G*	*Open*	*No*			*NF*	~~*O*~~*C*	*No*	*No*	*No*	15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Sodium bromide solution (less than 50 %)	*Y*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*R*	*No*	*No*	*No*	15.19.6
Sodium carbonate solution	*Z*	*S/P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	~~*O*~~*R*	*No*	~~*A*~~ *No*	*No*	15.19.6
Sodium chlorate solution (50 % or less)	*Z*	*S/P*	3	2*G*	*Open*	*No*			*NF*	~~*O*~~*R*	*No*	*No*	*No*	15.9 & 15.22.9 (15.9), 15.12, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Sodium dichromate solution (70 % or less)	*Y*	*S/P*	~~2~~1	~~2*G*~~ 1*G*	~~*Open*~~ *Cont*	*No*			*NF*	*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12~~.3~~, 15.17, 15.18, 15.19 & 15.22.12 (15.19)
Sodium hydrogen sulphide (6 % or less)/Sodium carbonate (3 % or less) solution	*Z*	*S/P*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Sodium hydrogen sulphite solution (45 % or less)	*Z*	~~*S/*~~*P*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	16.2.3-~~9.~~7 (16.2.9)
Sodium hydrosulphide/Ammonium sulphide solution	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*4	II*B*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, ~~15.14 & 15.22.10 (15.14)~~ 15.15, 15.17, 15.19 & 15.22.12 (15.19), 16.2.7-1~~.~~ (16.6.1),16.2.7-2~~.~~ (16.6.2), 16.2.7-3~~.~~ (16.6.3)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Sodium hydrosulphide solution (45 % or less)	*Z*	*S/P*	3	2*G*	*Cont*	*Vent or pad(gas)*			*NF*	*R*	*T*	*No*	~~*No*~~*Yes*	15.12, 15.15, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Sodium hydroxide solution	*Y*	*S/P*	3	2*G*	*Open*	*No*			*NF*	~~*O*~~*C*	*No*	*No*	*No*	15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Sodium hypochlorite solution (15 % or less)	*Y*	*S/P*	2	2*G*	*Cont*	*No*	-	-	*NF*	*R*	*No*	*No*	*No*	15.17, 15.19.6
Sodium methylate 21–30 % in ~~methanol~~ methyl alcohol	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*C*	*F-T*	*AC*	*Yes*	15.12, 15.17, 15.19 &15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6) (only if >28%), 16.2.3-~~9.~~7 (16.2.9)
Sodium nitrite solution	*Y*	*S/P*	~~2~~3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	*No*	~~15.12.3.1, 15.12.3.2,~~ 15.12.3, 15.12.4, 15.19 & 15.22.12 (15.19), 16.2.3-6 (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Sodium petroleum sulphonate	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Sodium poly (4+) acrylate solutions	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	16.2.3-~~9.~~7 (16.2.9)
Sodium silicate solution	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Sodium sulphate solutions	*Z*	*S*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	16.2.3-7 (16.2.9)
Sodium sulphide solution (15 % or less)	*Y*	*S/P*	3	2*G*	*Cont*	*No*			*NF*	*C*	*T*	*No*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Sodium sulphite solution (25 % or less)	*Y*	*S/P*	3	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Sodium thiocyanate solution (56 % or less)	*Y*	*S/P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	*No*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Soyabean oil	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
			(k)									*C*		16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Soybean oil fatty acid methyl ester	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-7 (16.2.9)
Styrene monomer	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*R*~~*C*	*F-T*	*AB C*	*No*	15.12, 15.13, 15.17, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~(16.6.2)
Sulphohydrocarbon (C3–C88)	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Sulpholane	*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Sulphur (molten)	*Z*	*S*	3	1*G*	*Open*	*Vent or pad(gas)*	*T*3		*Yes*	*O*	*F-T*	*No*	*No*	15.10, 16.2.3-~~9.~~7 (16.2.9)
Sulphuric acid	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.11, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-7 (16.2.9)
Sulphuric acid, spent	*Y*	*S/P*	~~3~~2	2*G*	~~*Open*~~ *Cont*	*No*			*NF*	~~*O*~~*C*	~~*No*~~*T*	*No*	~~*No*~~ *Yes*	15.11, 15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Sulphurized fat (C14–C20)	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	
Sulphurized polyolefinamide alkene (C28–C250) amine	*Z*	*P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	
Sunflower seed oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Tall oil, crude	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6,16.2.3-6~~.~~ (16.2.6)
Tall oil, distilled	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C		
Tall oil fatty acid (resin acids less than 20 %)	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Tall oil pitch	*Y*	~~*S/*~~*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-7 (16.2.9)
Tall oil soap, crude	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*	*Yes*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6 (16.2.6)
Tallow	*Y*	*P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Tallow fatty acid	*Y*	*P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Tetrachloroethane	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*NF*	*R*	*T*	*No*	*No*	15.12.3, 15.12.4, ~~15.17,~~ 15.19~~.6~~ & 15.22.12 (15.19)
Tetraethylene glycol	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Tetraethylene pentamine	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19)
Tetrahydrofuran	*Z*	*S*	3	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	*R*	*F-*~~*T*~~	*AC*	*No*	15.19.6
Tetrahydronaphthalene	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Tetramethylbenzene (all isomers)	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Titanium dioxide slurry	*Z*	*P*	3	2*G*	*Open*	*No*			~~*Yes*~~*NF*	*O*	*No*	~~*AB*~~ *No*	*No*	
Toluene	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*R*~~*C*	*F-T*	*AC*	*No*	15.12, 15.17, 15.19.6
Toluenediamine	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*AB C*~~*D*~~	*Yes*	15.12, 15.17, 15.18, 15.19 & 15.22.12 (15.19),

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
														16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Toluene diisocyanate	*Y*	*S/P*	2	2*G*	*Cont*	*Dry*	~~*T*~~1~~.~~	~~II~~*A*~~.~~	*Yes*	*C*	~~*T*~~*T*	*ABC* (b) *D*	*Yes*	15.12, 15.16.2 & 15.22.11 (15.16.2), 15.17, 15.18, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
o-Toluidine	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*ABC*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
Tributyl phosphate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
1,2,3-Trichlorobenzene (molten)	*X*	*S/P*	~~1~~2	2*G*	*Cont*	*No*			*Yes*	~~*C*~~*R*	*T*	*ABC*~~*D*~~	~~*Yes*~~ *No*	15.12.~~1~~3, 15.12.4, ~~15.17,~~ 15.19.6~~ & 15.22.12 (15.19)~~, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
1,2,4-Trichlorobenzene	*X*	*S/P*	1	2*G*	*Cont*	*No*			*Yes*	~~*R*~~*C*	*T*	*ABC*	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
1,1,1-Trichloroethane	*Y*	*P*	~~2~~2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6
1,1,2-Trichloroethane	*Y*	*S/P*	3	2*G*	~~*Cont*~~*Open*	*No*			*NF*	~~*R*~~*O*	~~*T*~~*No*	*No*	*No*	~~15.12.1.~~ 15.19.6
Trichloroethylene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	~~*T*~~2~~.~~	~~II~~*A*~~.~~	~~*Yes*~~*NF*	~~*R*~~*C*	*T*	*No*	*No*	15.12, 15.17, 15.19.6
1,2,3-Trichloropropane	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*			*Yes*	*C*	*T*	*ABC*~~*D*~~	*No*	15.12, 15.17, 15.19 & 15.22.12 (15.19)
1,1,2-Trichloro-1,2,2-Trifluoroethane	*Y*	*P*	2	2*G*	*Open*	*No*			*NF*	*O*	*No*	*No*	*No*	15.19.6
Tricresyl phosphate (containing 1 % or more ortho-isomer)	*Y*	*S/P*	~~1~~2	2*G*	*Cont*	*No*	~~*T*~~2~~.~~	~~II~~*A*~~.~~	*Yes*	*C*	~~*No*~~*T*	*ABC*	*No*	15.12~~.3~~, 15.17, 15.19 & 15.22.12 (15.19), 16.2.3-6~~.~~ (16.2.6)
Tricresyl phosphate (containing less than 1 % ortho-isomer)	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*ABC*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Tridecane	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB*	*No*	15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
												C		
Tridecanoic acid	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*ABC*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)
Tridecyl acetate	*Y*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*	-	-	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
Triethanolamine	*Z*	*S/P*	3	2*G*	~~*Open*~~ *Cont*	*No*		~~II~~*A*	*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-9.7 (16.2.9)
Triethylamine	*Y*	*S/P*	~~2~~3	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	~~*R*~~*C*	*F-T*	*ABC*	~~*Yes*~~ *No*	15.12.3, 15.12.4, 15.19.6 & 15.22.12 (15.19)
Triethylbenzene	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*ABC*	*No*	15.12.3, 15.12.4, 15.19.6
Triethylenetetramine	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	~~*T2.*~~	~~II*A.*~~	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AC*	~~*No*~~*Yes*	15.12, 15.17, 15.19.6 & 15.22.12 (15.19), 16.2.3-7 (16.2.9)
Triethyl phosphate	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6
Triethyl phosphite	*Z*	*S/P*	3	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*ABC*	*No*	15.12.13, 15.12.4, 15.19.6, 16.2.3-9.7 (16.2.9)
Triisopropanolamine	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-7 (16.2.9)
Triisopropylated phenyl phosphates	*X*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	15.19.6, 16.2.3-6. (16.2.6)
Trimethylacetic acid	*Y*	*S/P*	2	2*G*	*Cont*	*No*			*Yes*	*R*	~~*No*~~*T*	*AC*	*No*	~~15.11.2, 15.11.3, 15.11.4, 15.11.5, 15.11.6, 15.11.7, 15.11.8,~~ 15.11, 15.12.3, 15.12.4, 15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9.7 (16.2.9)
Trimethylamine solution (30 % or less)	*Z*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*B*	*No*	~~*C*~~*R*	*F-T*	*AC*	~~*Yes*~~ *No*	15.12.3, 15.12.4, 15.14 & 15.22.10 (15.14), 15.19.6 ~~& 15.22.12 (15.19), 16.2.3-9. (16.2.9)~~
Trimethylbenzene (all isomers)	*X*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*ABC*	*No*	15.19.6

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Trimethylol propane propoxylated	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	~~*Z*~~*Y*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
1,3,5-Trioxane	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T*2	II*B*	*No*	~~*R*~~*C*	*F-T*	*AC* ~~*D*~~	*No*	15.12, 15.17, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Tripropylene glycol	*Z*	*P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	
Trixylyl phosphate	*X*	*S/P*	~~2~~1	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	*No*	15.12, 15.17, 15.19.6, 16.2.3-6~~.~~ (16.2.6)
Tung oil	*Y*	*S/P*	2 (k)	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9), 16.2.3-8 (16.2.7)
Turpentine	*X*	*S/P*	2	2*G*	*Cont*	*No*	~~*T1*~~*T*3	II*A*	*No*	*R*	*F-T*	*AC*	*No*	15.19.6
Undecanoic acid	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-6~~.~~ (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
1-Undecene	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6
Undecyl alcohol	*X*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Urea/Ammonium nitrate solution	~~*Z*~~*Y*	*S/P*	3	2*G*	*Open*	*No*	-	-	~~*Yes*~~*NF*	*O*	*No*	~~*A*~~ *No*	*No*	15.19.6
~~Urea/Ammonium nitrate solution (containing less than 1% free ammonia)~~	~~*Z*~~	~~*S/P*~~	~~3~~	~~2*G*~~	~~*Cont*~~	~~*No*~~			~~*NF*~~	~~*R*~~	~~*T*~~	~~*A*~~	~~*No*~~	~~16.2.3-9. (16.2.9)~~
Urea/Ammonium phosphate solution	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*			*Yes*	~~*O*~~*R*	~~*No*~~*T*	*AC*	*No*	15.12.3, 15.12.4, 15.19.6
Urea solution	*Z*	*S/P*	3	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AC*	*No*	16.2.3-7 (16.2.9)
Used cooking oil (m)	*X*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Used cooking oil (Triglycerides, C16–C18 and C18 unsaturated) (m) (n)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-7 (16.2.9), 16.2.3-8 (16.2.7)
Valeraldehyde (all isomers)	*Y*	*S/P*	3	2*G*	*Cont*	*Inert*	*T3*	II*B*	*No*	*R*	*F-T*	*AB C*	*No*	15.4.6, 15.13, 15.19.6, 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)
Vegetable acid oils (m)	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-9.7 (16.2.9), 16.2.3-8 (16.2.7)
Vegetable fatty acid distillates (m)	*Y*	*S/P*	2	2*G*	*Open*	*No*	-	-	*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-9.7 (16.2.9), 16.2.3-8 (16.2.7)
Vegetable oil mixtures, containing less than 15 % free fatty acid (m)	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6 (16.2.6), 16.2.3-9.7 (16.2.9), 16.2.3-8 (16.2.7)
Vinyl acetate	*Y*	*S/P*	3	2*G*	*Cont*	*No*	*T2*	II*A*	*No*	*RC*	*F-T*	*AB C*	*No*	15.12, 15.13, 15.17, 15.19.6, 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)
Vinyl ethyl ether	*Z*	*S/P*	2	1*G* 2*G*	*Cont*	*Inert*	*T3*	II*B*	*No*	*GR*	*F-T*	*AB C*	*Yes* *No*	15.4, 15.13, 15.14 & 15.22.10 (15.14), 15.19.6, 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)
Vinylidene chloride	*Y*	*S/P*	2	2*G*	*Cont*	*Inert*	*T2*	II*A*	*No*	*RC*	*F-T*	*AB C*	*Yes* *No*	15.12, 15.13, 15.14 & 15.22.10 (15.14), 15.17, 15.19.6 & 15.22.12 (15.19), 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)
Vinyl neodecanoate	*Y*	*S/P*	2	2*G*	*Open* *Cont*	*No*			*Yes*	*OC*	*NoT*	*AB C*	*No* *Yes*	15.12, 15.13, 15.17, 15.19.6 & 15.22.12 (15.19), 16.2.7-1 (16.6.1), 16.2.7-2 (16.6.2)

Table S17.1 Summary of Minimum Requirements (continued)

a	*c*	*d*	*e*	*f*	*g*	*h*	*i'*	*i''*	*i'''*	*j*	*k*	*l*	*n*	*o*
Product Name	*Pollution Category*	*Hazards*	*Ship Type*	*Tank Type*	*Tank Vents*	*Tank Environmental Control*	*Electrical Equipment*			*Gauging*	*Vapour*	*Fire Extinguishing*	*Respiratory and Eye Protection*	*Special Requirements*
							Class	*Group*	*Flashpoint >60 °C*					
Vinyltoluene	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	~~*R*~~*C*	*FT*	*AB C*	*No*	15.12, 15.13, 15.17, 15.19.6, 16.2.7-1~~.~~ (16.6.1), 16.2.7-2~~.~~ (16.6.2)
~~*Waxes*~~	~~*Y*~~	~~*P*~~	~~2~~	~~2*G*~~	~~*Open*~~	~~*No*~~	~~-~~	~~-~~	~~*Yes*~~	~~*O*~~	~~*No*~~	~~*AB*~~	~~*No*~~	~~15.19.6, 16.2.3-6. (16.2.6), 16.2.3-9. (16.2.9)~~
White spirit, low (15–20 %) aromatic	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*3	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6, 16.2.3-~~9.~~7 (16.2.9)
Wood lignin with sodium acetate/oxalate	*Z*	*S/P*	3	2*G*	*Open*	*No*	-	-	*NF*	*O*	*No*	*No*	*No*	
Xylenes	*Y*	*P*	2	2*G*	*Cont*	*No*	*T*1	II*A*	*No*	*R*	*F*	*AB C*	*No*	15.19.6, 16.2.3-9. (16.2.9) (h)
Xylenes/ethylbenzene (10 % or more) mixture	*Y*	*S/P*	2	2*G*	*Cont*	*No*	*T*2	II*A*	*No*	*R*	*F-T*	*AB C*	*No*	15.12.3, 15.12.4, 15.19.6
Xylenol	*Y*	*S/P*	2	2*G*	~~*Open*~~ *Cont*	*No*	-	II*A*	*Yes*	~~*O*~~*C*	~~*No*~~*T*	*AB C*	~~*No*~~ *Yes*	15.12, 15.17, 15.19~~.6~~ & 15.22.12 (15.19), 16.2.3-~~9.~~7 (16.2.9)
Zinc alkaryl dithiophosphate (C7–C16)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6. (16.2.6), 16.2.3-~~9.~~7 (16.2.9)
Zinc alkenyl carboxamide	*Y*	*S/P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)
Zinc alkyl dithiophosphate (C3–C14)	*Y*	*P*	2	2*G*	*Open*	*No*			*Yes*	*O*	*No*	*AB C*	*No*	15.19.6, 16.2.3-6~~.~~ (16.2.6)

Notes

(a) If the product to be carried contains flammable solvents such that the flashpoint does not exceed 60 °C, then special electrical systems and a flammable-vapour detector are to be provided.

(b) Although water is suitable for extinguishing open-air fires involving chemicals to which this footnote applies, water is not to be allowed to contaminate closed tanks containing these chemicals because of the risk of hazardous gas generation.

(c) Phosphorus (yellow or white) is carried above its auto-ignition temperature and therefore flashpoint is not appropriate. Electrical equipment requirements may be similar to those for substances with a flashpoint above 60 °C.

(d) Requirements are based on those isomers having a flashpoint of 60 °C, or less; some isomers have a flashpoint greater than 60 °C, and therefore the requirements based on flammability would not apply to such isomers.

(e) Applies to n-decyl alcohol only.

(f) Dry chemical is not to be used as fire extinguishing media.

(g) Confined spaces are to be tested for both formic acid vapours and carbon monoxide gas, a decomposition product.

(h) Applies to p-xylene only.

(i) For mixtures containing no other components with safety hazards and where the pollution category is Y or less.

(j) Only certain alcohol-resistant foams are effective.

(k) Requirements for Ship Type identified in column *e* might be subject to regulation 4.1.3 of *ANNEX* II of *MARPOL* 73/78.

(l) Applicable when the melting point is equal to or greater than 0 °C.

(m) From vegetable oils, animal fats and fish oils specified in this chapter.

(n) Confirmation that the product is composed of triglycerides, C16–C18 and C18 unsaturated is to be required in order for the entry to be used. Otherwise, the more generic entry “Used cooking oil (m)” is to be used.

(o) Indicates that the entries are to be used solely for backloading of contaminated bulk liquids from offshore installations used in the search and exploitation of seabed mineral resources.

Chapter 18 LIST OF CHEMICALS TO WHICH THIS PART DOES NOT APPLY
(With reference to *IBC Code* Chapter 18)

18.1 General

Paragraph 18.1.1 has been amended as follows.

18.1.1 Application*

1 Although the products listed in the **Table S18.1** fall outside the scope of this part, the attention of Society is drawn to the fact that some safety precautions may be needed for their safe transportation. Accordingly Society is to prescribe appropriate safety requirements.

~~(1) Product name (column a)~~

~~The product name is to be used in the shipping document for any cargo offered for bulk shipments. In some cases, the product names may not be identical with the names given in previous issues of the *IBC Code*.~~

~~(2) Pollution category (column c)~~

~~The letter *Z* means the pollution category assigned to each product under *Annex II of MARPOL 73/78*. "*OS*" means the product was evaluated and found to fall outside the categories *X*, *Y* or *Z*.~~

2 Some liquid substances are identified as falling into Pollution Category *Z* and, therefore, subject to certain requirements of *MARPOL* Annex II.

3 Liquid mixtures which are assessed or provisionally assessed under regulation 6.3 of *MARPOL* Annex II as falling into Pollution Category *Z* or *OS*, and which do not present safety hazards, may be carried under the appropriate entry in this chapter for "Noxious or Non-Noxious Liquid Substances, not otherwise specified (n.o.s.)".

Table S18.1 has been amended as follows.

Table S18.1 List of Chemicals to which this Part Does Not Apply

Product name	Pollution Category
Acetone	*Z*
Alcoholic beverages, n.o.s.	*Z*
Apple juice	*OS*
n-Butyl alcohol	*Z*
sec-Butyl alcohol	*Z*
Calsium carbonate slurry	*OS*
~~Calcium nitrate solutions (50% or less)~~	~~*Z*~~
Clay slurry	*OS*
Coal slurry	*OS*
~~Diethylene glycol~~	~~*Z*~~
Ethyl alcohol	*Z*
~~Ethylene carbonate~~	~~*Z*~~
Glucose solution	*OS*
~~Glycerine~~	~~*Z*~~
Glycerol ethoxylated	*OS*
~~Hexamethylenetetramine solutions~~	~~*Z*~~
~~Hexylene glycol~~	~~*Z*~~
Hydrogenated starch hydrolysate	*OS*
Isopropyl alcohol	*Z*
Kaolin slurry	*OS*
Lecithin	*OS*
~~Magnesium hydroxide slurry~~	~~*Z*~~
Maltitol solution	*OS*
~~N-Methylglucamine solution (70% or less)~~	~~*Z*~~
~~Methyl propyl ketone~~	~~*Z*~~
Microsilica slurry	*OS*
Molasses	*OS*
Noxious liquid, (11) n.o.s. (trade name …., contains ….) Cat. *Z*	*Z*
Non-noxious liquid, (12) n.o.s. (trade name …., contains ….) Cat. *OS*	*OS*
Orange juice (concentrated)	*OS*
Orange juice (not concentrated)	*OS*
~~Polyaluminium chloride solution~~	~~*Z*~~
~~Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide)~~	~~*Z*~~
Potassium chloride solution (less than 26%)	*OS*
~~Potassium formate solutions~~	~~*Z*~~
~~Propylene carbonate~~	~~*Z*~~
Propylene glycol	~~*Z*~~*OS*
Sodium acetate solutions	*Z*
Sodium bicarbonate solution (less than 10%)	*OS*
~~Sodium sulphate solutions~~	~~*Z*~~
Sorbitol solution	*OS*
Sulphonated polyacrylate solution	*Z*
Tetraethyl silicate monomer/oligomer (20% in ethanol)	*Z*
Triethylene glycol	~~*Z*~~*OS*
Vegetable protein solution (hydrolysed)	*OS*
Water	*OS*

(notes)

~~(1) Some liquid substances are identified as falling into pollution category *Z* and, therefore, subject to certain requirements of *Annex* II of *MARPOL* 73/78.~~

~~(2) Liquid mixtures which are assessed or provisionally assessed under regulation 6.3 of *MARPOL Annex* II as falling into Pollution Category *Z* or *OS*, and which do not present safety hazards, may be carried under the appropriate entry in this Table for "Noxious or Non-Noxious Liquid Substances, not otherwise specified (n.o.s.)".~~

Product name: The product name is to be used in the shipping document for any cargo offered for bulk shipments. In some cases, the product names may not be identical with the names given in previous issues of the *IBC Code*.

Pollution category: The letter "*Z*" means the pollution category assigned to each product under Annex II of *MARPOL* 73/78. "*OS*" means the product was evaluated and found to fall outside the categories *X*, *Y* or *Z*.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2021.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part S Ships Carrying Dangerous Chemicals in Bulk

2020 AMENDMENT NO.2

Notice No.61 24 December 2020
Resolved by Technical Committee on 5 August 2020

Notice No.61 24 December 2020
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Guidance for the survey and construction of steel ships" has been partly amended as follows:

Part S SHIPS CARRYING DANGEROUS CHEMICALS IN BULK

S1 GENERAL

S1.3 Definitions

S1.3.1 Definitions

Sub-paragraphs -2 and -3 have been amended as follows.

2 The term "cargo area" referred to **1.3.1(~~4~~5), Part S of the Rules** excludes the fuel oil tanks adjacent to the cargo tanks or slop tanks of the arrangement as given in **Fig. S1.3.1-1**. However, the requirements specified in **3.4, Part S of the Rules** apply.
3 The piping system "separated" from each other as referred to in **1.3.1(~~19~~29), Part S of the Rules** means either of the following **(1)** or **(2)**:
((1) and (2) are omitted.)

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2021.