

DEPARTMENT OF TRANSPORTATION**Coast Guard****33 CFR Part 151****46 CFR Parts 30, 150, 151, and 153****[USCG 2000-7079]****RIN 2115-AF96****Noxious Liquid Substances, Obsolete Hazardous Materials in Bulk, and Current Hazardous Materials in Bulk****AGENCY:** Coast Guard, DOT.**ACTION:** Direct final rule.

SUMMARY: The Coast Guard revises its rules on carriage of hazardous materials in bulk, treating the rules in three parts. This three-part revision will update the tables of hazardous materials transportable in bulk and better inform persons shipping any such materials of those materials' compatibility and of requirements for special handling. It should make the carriage of such materials safer.

DATES: This rule is effective March 8, 2001, unless a written adverse comment or a written notice of intent to file one reaches the Docket Management Facility on or before February 6, 2001. If either does reach the Facility, the Coast Guard may withdraw this rule and publish a timely notice of withdrawal in the **Federal Register**. If neither does, the Coast Guard will publish a document affirming the effectiveness of this rule. If an adverse comment applies to an amendment, a section, or a paragraph of this rule and we can withdraw that provision without defeating the purpose of this rule, we may withdraw that provision and adopt as final only the other provisions.

ADDRESSES: Please identify your comments and related material for this rulemaking by the number of the docket [USCG 2000-7079]. To make sure they do not enter the docket more than once, please submit them by only one of the following means:

(1) By mail to the Facility, U.S. Department of Transportation, room PL-401, 400 Seventh Street SW., Washington, DC 20590-0001.

(2) In person to room PL-401 on the Plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202-366-9329.

(3) By fax to the Facility at 202-493-2251.

(4) Electronically through the Web site for the Docket Management System at <http://dms.dot.gov>.

FOR FURTHER INFORMATION CONTACT: For questions on this rule, call Mr. Curtis G. Payne, Project Manager, Hazardous Materials Standards Division, Coast Guard, telephone 202-267-1217. For questions on viewing or submitting material to the docket, call Dorothy Beard, Chief, Dockets, Department of Transportation, telephone 202-366-9329.

The Facility maintains the public docket for this rulemaking. Comments and material received from the public, as well as documents mentioned in this preamble as being available in the docket, will become part of this docket. You may inspect or copy them at room PL-401 on the Plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also find them on the Internet at <http://dms.dot.gov>.

SUPPLEMENTARY INFORMATION: We are revising our rules on Noxious Liquid Substances (NLSs) to include substances recently authorized for carriage by the Coast Guard or added to the Chemical Codes of the International Maritime Organization (IMO) and by making minor technical and editorial changes. We are revising our rules, tables, and lists on carriage of hazardous materials in bulk by deleting from our rules, tables, and lists commodities that are no longer liquid cargoes transportable in bulk, and by canceling the classifications of obsolete commodities not included in those rules, tables, and lists. We are revising our rules on carriage of hazardous materials in bulk by adding cargoes recently authorized for carriage by the Coast Guard or added to the Chemical Codes of the IMO and by making minor technical and editorial changes.

Request for Comments

The Coast Guard encourages you to participate in this rulemaking by submitting comments and related material. If you do so, please include your name and address, identify the number of the docket for this rulemaking [USCG 2000-7079], indicate the specific section of this document to which each comment applies, and give the reason for each comment. You may submit your comments and material by mail, in person, by fax, or electronically to the Facility at the address under **ADDRESSES**; but please submit your comments and material by only one means. If you submit them by mail or in

person, submit them in an unbound format, no larger than 8 1/2 by 11 inches, suitable for copying and electronic filing. If you submit them by mail and would like to know they reached the Facility, please enclose a stamped, self-addressed postcard or envelope. We will consider all comments and material received during the comment period. We may change this rule in view of them.

Regulatory Information

The Coast Guard is publishing a direct final rule, the procedures for which are outlined in 33 CFR 1.05-55, because it anticipates no adverse comment. If no written adverse comment or written notice of intent to submit one reaches the Facility within the specified comment period, this rule will become effective as stated in the **DATES** section. In that case, about 30 days before the effective date, we will publish a document in the **Federal Register** stating that we received no written adverse comments or written notice and confirming that this rule will become effective as scheduled. However, if we receive either, we will publish a document in the **Federal Register** announcing withdrawal of all or part of this rule. If an adverse comment applies to an amendment, a section, or a paragraph of this rule and we can withdraw the affected provision without defeating the purpose of this rule, we may withdraw that provision and adopt as final only the other provisions. If we decide to proceed with a rulemaking even after receipt of an adverse comment, we will withdraw the direct final rule and publish a separate notice of proposed rulemaking (NPRM) and provide a new opportunity for comment.

A comment is "adverse" if it explains why this rule would be inappropriate, by reason of either its premise or its approach, or would be ineffective or unacceptable without a change.

Background and Purpose

Because the United States is a party to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), the Coast Guard must amend its rules to ensure that they stay consistent with the Chemical Codes of the IMO.

In this rule, we address Noxious Liquid Substances, Obsolete Hazardous Materials, and Current Hazardous Materials in Bulk.

Noxious Liquid Substances

The Coast Guard is revising its list of Category D other-than-oil-like NLSs, 33

CFR 151.47, and of Category D oil-like NLSs, 33 CFR 151.49(b).

The Coast Guard is revising its list of Category D NLSs by including in this list new entries added by Part C of this rule to Table 30.25-1 of 46 CFR and Tables 1 and 2 of 46 CFR part 153. These are chemicals recently authorized or added to two Chemical Codes of the IMO: "International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk" (IBC Code), and "Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk" (BCH Code). This rule mainly updates our lists of chemicals in 33 CFR part 151. Further, because the names of several entries have changed, we will change them in the lists.

IMO has reevaluated several of the Category D chemicals so that they now belong to Pollution Category "III" or count both as "safety" hazards and as "pollution" hazards. Therefore, this rule will remove those currently in the lists.

Obsolete Hazardous Materials

IMO publishes the Circular of the Marine Environmental Protection Committee (MEPC), "Provisional Categorization of Liquid Substances," a list of commodities whose carriage as bulk liquid cargoes it permits but that it has not yet entered into its Chemical Codes. It reissues the Circular in December of each year. The current edition is MEPC.2/Circ.5, dated December 17, 1999. The purpose of the Circular is to publish "the lists of products, the pollution category and minimum carriage requirements of which have been established through Tripartite Agreements and registered with the Secretariat" of the Subcommittee on Bulk Liquids and Gases (BLG) of the IMO.

Of the commodities listed in the Circular, those that have been submitted by the various Administrations to the Working Group on Evaluation of Safety and Pollution Hazards (ESPH) of Chemicals, or that are mixtures of pollutant-only materials, appear in the lists without date of expiry. All other commodities appear with dates of expiry of three years from when first published in the Circular. This grace period of three years is to allow the proposed new commodity to be submitted to the Working Group for final evaluation and inclusion in the Codes, or, as is most often the case, to allow time for any testing that may be needed to complete the data form from IMO where the data were missing in the original submission. At the end of the grace period, any commodity not submitted to the Working Group drops

from the Circular and is no longer eligible for carriage in bulk. This rule identifies those commodities.

Last, the Coast Guard periodically reviews its rules, tables, and lists to determine whether any commodities in 33 and 46 CFR are no longer being either manufactured at all or moved in bulk by vessel, and are therefore appropriate for deletion. For interested parties, a preliminary list of commodities that may have become obsolete appears in supplemental material available in the docket [USCG 2000-7079] from the Docket Management Facility.

Current Hazardous Materials in Bulk

This rule updates various hazardous materials tables in 46 CFR parts 30, 150, 151, and 153 to include new chemicals and requirements authorized by international law or by other of our rules. This rule would also make other non-substantive editorial changes.

Supplemental material is available in the docket [USCG 2000-7079], again from the Docket Management Facility.

Discussion of Changes

Noxious Liquid Substances

(a) IMO has assigned the following chemicals to Pollution Category D. We will enter them in 33 CFR 151.47, Category D NLSs other than oil-like Category D NLSs that may be carried under this part.

Aluminum sulfate solution
Coconut oil fatty acid methyl ester
Copper salt of long chain (C17+) alkanolic acid
Dialkyl (C8-C9) diphenylamines
Ethoxylated long chain (C16+) alkyloxyalkanamine
Glyphosate solution (not containing surfactant)
Methyl amyl ketone
Polyolefin amide alkeneamine (C17+)
Sulfonated polyacrylate solution
Sulfurized fat (C14-C20)
Sulfurized polyolefinamide alkene (C28-C250) amine

(b) IMO has reevaluated five chemicals in Pollution Category D and assigned them as cargoes in Pollution Category "III". We will remove them from § 151.47. They are:

Decane
Decylbenzene
Dialkyl (C10-C14) benzenes
Lecithin (soyabean)
Zinc alkenyl carboxamide

(c) IMO has reevaluated several chemicals and has, on the basis of this, designated them as both "safety" hazards and "pollution" hazards. We will remove them from § 151.47. They are:

Diethanolamine
2-Ethoxyethanol
Ethylene glycol ethyl ether
Ethylene glycol isopropyl ether
Ethylene glycol methyl ether
Ethylene glycol monoalkyl ethers

(d) One entry, "palm kernel oil, fatty acid methyl ester" is obsolete. We will remove it from § 151.47.

(e) We will move names incorrectly cross-referred to under "Polypropylene glycol methyl ether" so they correctly cross-refer to "Propylene glycol monoalkyl ether."

(f) We will remove "Diisopropyl naphthalene" from the list of Category D oil-like NLSs in 33 CFR 151.49(b). We revised the Pollution Category for this chemical according to the Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Hazard Profile. The new Category is "A." This leaves paragraph (b) an empty set, but we will reserve it.

Obsolete Hazardous Materials

We identify below commodities canceled and deleted from the IMO Circular MEPC.2/Circ.5, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES, and also canceled and deleted from our rules, tables, and lists. We identify the commodities by the IMO Tripartite List in which they appeared with the number of the list in the right-hand column.

IMO Tripartite Lists, MEPC.2/Circ.5, Provisional Categorization of Liquid Substances

List 1: Pure or technically pure substances.

List 2: Pollutant only mixtures classified by calculation or assessed as a mixture.

List 3: Trade-named substances with safety hazards.

List 4: Pollutant only mixtures with greater than 3% unassessed components.

A diamond "♦" preceding the name of the cargo indicates the sponsorship of the cargo by the Coast Guard for the U.S. in the Tripartite Agreement process. The absence of a diamond indicates sponsorship of the cargo by an Administration of another country, counterpart to the Coast Guard.

In light of the foregoing, we cancel all chemicals below, referred to in one or another of the four Tripartite Lists, and delete them as bulk liquid cargoes. They are no longer transportable in bulk by the water mode.

Commodities Deleted From IMO Tripartite Lists, MEPC.2

CIRC.1, PROVISIONAL
EGORIZATION OF LIQUID SUB-
STANCES (18 DEC. 1995)

Commodity name (descriptor)	List
◆ A-964 (<i>ammonium long chain alkaryl sulfonate</i>).	4
◆ AL 150 (<i>alkyl(C18-C65) benzene</i>).	4
◆ Alcohol(C9-C11)(primary)ethoxylated. NOTE: This chemical has been renamed "Alcohol(C9-C11) poly(2.5-9) ethoxylate", which is currently a valid cargo name.	1
◆ AMOCO 2400 (<i>zinc alkyl dithiophosphate (C3-C14) and polyolefin amide alkeneamine polyol</i>).	4
◆ AMOCO 8072F (<i>zinc alkyl dithiophosphate(C3-C14)</i>).	4
◆ AMOCO 9267 (<i>polybutyl phenol</i>)	4
◆ Antifreeze 511 (<i>ethylene glycol</i>)	4
◆ AO 5301 (<i>polyolefin amine</i>)	4
◆ ARCOL Polyol 1905 (<i>1,2,3-propane triol polymer with oxirane and methyloxirane</i>).	4
◆ Atar cresylic acid (<i>cresols</i>)	3
◆ BEROLAMINE 20 (<i>alkanolamines</i>).	3
◆ Brake fluid component 5/9 (<i>polyether polyols</i>).	4
◆ Brake Fluid ET 462 (<i>triethylene glycol methyl ether, polyether triols</i>).	4
◆ CALTEX CODE 599067 (<i>alkyl phenate sulfide</i>).	4
◆ CALTEX CODE 599178 (<i>alkyl phenate sulfide</i>).	4
◆ 1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone.	1
◆ Co-solvent alcohol (<i>propyl alcohol</i>).	4
◆ Depitched tar acid (<i>phenols, cresols</i>).	3
◆ 2-Ethylhexyl-2-(2,4-dichlorophenoxy) propionate.	1
◆ HiTEC 244 (<i>sulpho hydrocarbon, long chain alkyl amine mixture</i>).	4
◆ HiTEC 370 (<i>sulpho hydrocarbon, alkenyl dialkyl dithiophosphate mixture</i>).	4
◆ HiTEC 4782 (<i>methylene bridged isobutylated phenols</i>).	4
◆ Light end/Heavy end Chlorinated hydrocarbon mixture.	3
◆ LINCOL 86M (<i>1-decanol</i>)	4
◆ LM 114 (<i>ethoxylated nonylphenol</i>).	3
◆ M-50-A (<i>calcium and magnesium long chain alkaryl sulfonates</i>).	3
◆ MANRO SXS 40 (<i>alkylbenzene sulfonic acid, sodium salt solution</i>).	3
◆ MCP 121 (<i>ditridecyl adipate</i>)	4
◆ MCP 239B (<i>polyisobutenyl anhydride adduct</i>).	4

CIRC.1, PROVISIONAL
EGORIZATION OF LIQUID SUB-
STANCES (18 DEC. 1995)—Con-
tinued

Commodity name (descriptor)	List
◆ MCP 955A (<i>polyisobutenyl anhydride adduct</i>).	4
◆ MD-E-18 (<i>aliphatic C18 ethers and C19 ether alcohol</i>).	4
◆ MD-E-20 (<i>aliphatic C20 ethers and C21 ether alcohol</i>).	4
◆ MOBIL Stock 2631 (<i>zinc alkyl dithiophosphate(C3-C14)</i>).	4
◆ OGA 478 (<i>polyolefin amine</i>)	4
◆ OLOA 2564A (<i>polyolefin anhydride</i>).	4
◆ OLOA 2564B (<i>polyolefin anhydride</i>).	4
◆ OLOA 2820 (<i>diphenylamine reaction product with 2,2,4-trimethylpentene and zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 2990 (<i>calcium long chain alkyl phenate sulfide(C8-C40)</i>).	4
◆ OLOA 6039M (<i>alkyl phenate sulfide</i>).	4
◆ OLOA 6063U (<i>alkyl phenol</i>)	4
◆ OLOA 6109 (<i>alkyl phenate sulfide</i>).	4
◆ OLOA 6121 (<i>alkyl phenol</i>)	4
◆ OLOA 6832 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 6847 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 6847D (<i>polyolefin amide alkeneamine polyol and zinc alkyl dithio phosphate (C3-C14)</i>).	4
◆ OLOA 6848 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 6853 (<i>zinc alkyl dithiophosphate (C3-C14) and polyolefin amide alkeneamine polyol</i>).	4
◆ OLOA 6854 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 6856 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 6858 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 6859 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 6859D (<i>polyolefin amide alkeneamine polyol and polyolefin ester</i>).	4
◆ OLOA 6881 (<i>alkyl phenate sulfide</i>).	4
◆ OLOA 6981 (<i>alkyl phenate sulfide</i>).	4
◆ OLOA 8167FA (<i>zinc alkyl dithiophosphate(C3-C14)</i>).	4
◆ OLOA 8167G (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8172 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8172A (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8172M (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4

CIRC.1, PROVISIONAL
EGORIZATION OF LIQUID SUB-
STANCES (18 DEC. 1995)—Con-
tinued

Commodity name (descriptor)	List
◆ OLOA 8177 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8177C (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8179 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8179A (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8380G (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8380V (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 857P (<i>alkyl phenol</i>)	4
◆ OLOA 8804E (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8818 (<i>zinc alkyl dithiophosphate (C3-C14) and polyolefin amide alkeneamine polyol</i>).	4
◆ OLOA 8850 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ OLOA 8858 (<i>diphenylamines, alkylated</i>).	4
◆ OLOA 8858B (<i>diphenylamine (C6-C15) alkylation product</i>).	4
◆ OLOA 9091 (<i>alkyl phenate sulfide</i>).	4
◆ OMA 431 CS(D) (<i>alkyl(C7-C9) nitrates</i>).	3
◆ ORA 502 (<i>polyolefin amine</i>)	4
◆ ORA 702 (<i>polyolefin amine</i>)	4
◆ OXYOLVE 80 (<i>aliphatic ketones</i>).	4
◆ PARANOX 5277 (<i>zinc alkyl dithiophosphate(C3-C14)</i>).	4
◆ PARAPOID 48 (<i>alkylamine (C17+)</i>).	4
◆ Pibsa (<i>polyolefin anhydride</i>)	4
◆ Polyalkyl methacrylate (C1-C20)	1
◆ REOFOS 65 (<i>isopropylated phenyl phosphate</i>).	4
◆ REOFOS 95 (<i>isopropylated phenyl phosphate</i>).	4
◆ SAP 9413 (<i>alcohol(C12-C15) propoxylate</i>).	4
◆ Sodium chromate liquor	1
◆ STOCK 1462 (<i>alkylamine (C17+)</i>).	4
◆ Tallow nitrile (Tallow (<i>alkyl nitrile</i>)).	1
◆ TLA 2400 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ TLA 2418 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ TLA 2421 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ TLA 2422 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ TLA 2427 (<i>diphenylamines, alkylated and polyolefin amide alkeneamine (C28+)</i>).	4
◆ TLA 2906A (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4
◆ TLA 2907 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	4

CIRC.1, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (18 DEC. 1995)—Continued

	Commodity name (descriptor)	List
◆	TLA 2907A (zinc alkyl dithiophosphate (C3-C14) and calcium long chain alkaryl sulfonate).	4
◆	TRILIN (TRIFLURALIN (A,A,A-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine)).	4
	VAMMAR D9 (aliphatic C18 ethers and C19 ether alcohol).	4
	VAMMAR D10 (aliphatic C20 ethers and C21 ether alcohol).	4
	VORANOL CP 4100 S Polyol (polyether polyols).	4

CIRC.2, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (17 DEC. 1996)

	Commodity name (descriptor)	List
	Aliphatic(C18-C20) ethers and alkyl(C20-C21) ether alcohols mixtures.	1
◆	2-Ethyl-6-methyl-N-(2-methoxy-1-methyl ethyl) aniline.	1
	Monomer 981 (polyalkyl(C12-C15) methacrylates).	3
◆	OLOA 390 (calcium salts of fatty acids).	4
◆	PARATEMPS 15 (decyl alcohol)	4
◆	PC-709 (polyoxyalkylamine)	4
◆	Potassium polysulfide, Potassium thiosulfate solution (41% or less).	1

CIRC.3, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (17 DEC. 1997)

	Commodity name (descriptor)	List
◆	Alkaryl polyethers (C65-C95)	1
	Arcol 1131 (1,2,3-propanetriol polymer).	4
	Crude Dipe (diisopropyl ether and 2-methylpent-2-ene).	3
	Diphenyl cresyl phosphate	1
◆	MCP 1064D (naphthalene)	4
◆	MOBILAD C241B (naphthalene)	4
◆	OGA 558R (alkaryl polyethers (C65-C95)).	4
◆	OLOA 6741 (methylene bridged isobutenylated phenols).	4
◆	OLOA 758A (calcium stearate)	4
◆	OLOA 6743 (methylene bridged isobutenylated phenols).	4
	OMA 4391 (alkyl(C7-C9) nitrates).	3
◆	PARADYNE 740 (mineral oil)	4
◆	PARANOX 152 (mineral oil)	4
◆	PARANOX 1155 (methylene bridged isobutenylated phenols).	4
	Pentacos(oxypropane-2,3-diyl)s.	1

CIRC.3, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (17 DEC. 1997)—Continued

	Commodity name (descriptor)	List
◆	POBA (alkaryl polyethers (C65-C95)).	4
	RGA 900 (alkyl(C7-C9) nitrates)	3
◆	Stock 2921.0 (naphthalene)	4
◆	TFA-4711 (naphthalene)	4
◆	TLA-2422A (zinc alkyl dithiophosphate (C3-C14)).	4

CIRC.4, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (17 DEC. 1998)

	Commodity name (descriptor)	List
◆	HiTEC 162 (polyolefin (mw 300+)).	2
◆	HiTEC 164 (polyolefin (mw 300+)).	2
◆	HiTEC 168 (polyolefin (mw 300+)).	2
◆	HiTEC 318 (sulphohydrocarbon, long chain (C18+) alkyl amine mixture).	2
◆	HiTEC 612 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 613 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 615 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 619 (alkylphenol sulfide)	2
◆	HiTEC 644 (polyolefin amide alkenamine (C28+)).	2
◆	HiTEC 646 (polyolefin amide alkenamine (C28+)).	2
◆	HiTEC 648 (polyolefin amide alkenamine borate (C28-C250)).	2
◆	HiTEC 685 (zinc alkyl dithiophosphate (C3-C8)).	2
◆	HiTEC 921 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 1102 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2403 (mineral oil)	2
◆	HiTEC 2769 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2831 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2837 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2908 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2933 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 2934 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 4103	2
◆	HiTEC 4105	2
◆	HiTEC 4738 (methylene bridged isobutylated phenols).	2
◆	HiTEC 4940 (naphthalene)	2
◆	HiTEC 4941 (polyolefin phenolic amine (C28-C250)).	2
◆	HiTEC 4949 (naphthalene)	2
◆	HiTEC 4950 (naphthalene)	2
◆	HiTEC 4961	2
◆	HiTEC 4963A (naphthalene)	2

CIRC.4, PROVISIONAL CATEGORIZATION OF LIQUID SUBSTANCES (17 DEC. 1998)—Continued

	Commodity name (descriptor)	List
◆	HiTEC 4980 (trimethylbenzene (all isomers)).	2
◆	HiTEC 4992 (naphthalene)	2
◆	HiTEC 4997 (naphthalene)	2
◆	HiTEC 6653 (sulphohydrocarbon (C3-C88)).	2
◆	HiTEC 7011 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7023 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7034 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7049 (polyolefin phenolic amine (C28-C250)).	2
◆	HiTEC 7065 (polyolefin phenolic amine (C28-C250)).	2
◆	HiTEC 7084 (sulphohydrocarbon (C3-C88)).	2
◆	HiTEC 7100 (polyolefin amide alkenamine borate (C28-C250)).	2
◆	HiTEC 7160 (calcium long chain alkyl phenate (C8-C40)).	2
◆	HiTEC 7169 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7198 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7222	2
◆	HiTEC 7239 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7243 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7303 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7304 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7305 (zinc alkyl dithiophosphate (C3-C14) and polyolefin phenolic amine (C28-C250)).	2
◆	HiTEC 7333 (zinc alkyl dithiophosphate (C3-C14) and polyolefin phenolic amine (C28-C250)).	2
◆	HiTEC 7334 (calcium long chain alkyl phenate (C8-C40)).	2
◆	HiTEC 7365 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7383 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7405 (zinc alkyl dithiophosphate (C3-C14) and calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7410 (diphenylamines, alkylated).	2
◆	HiTEC 7465 (calcium long chain alkyl phenate (C8-C40)).	2
◆	HiTEC 7562 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7569 (calcium long chain alkaryl sulfonate (C11-C50)).	2
◆	HiTEC 7576 (zinc alkyl dithiophosphate (C3-C14)).	2
◆	HiTEC 7635 (magnesium long chain alkaryl sulfonate (C11-C50)).	2

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tinued

	Commodity name (descriptor)	List		
◆	HiTEC 7636 (<i>magnesium long chain alkaryl sulfonate (C11-C50)</i>).	2	Caustic and petroleum residue (dated 30 Mar 90)	HiTEC 162
◆	HiTEC 7650 (<i>polyolefin (mw 300+) in mineral oil</i>).	2	Contaminated waste water (dated 20 Mar 85)	HiTEC 164
◆	HiTEC 7714 (<i>polyolefin amide alkeneamine borate (C28-C250)</i>).	2	Pond waste water (dated 23 Mar 87)	HiTEC 168
◆	HiTEC 7720 (<i>polyolefin amide alkeneamine borate (C28-C250)</i>).	2	Rainwater contaminated with pink/red water (dated 19 Oct 83)	HiTEC 244
◆	HiTEC 7741 (<i>polyolefin phenolic amine (C28-C250)</i>).	2	Waste water (aniline production) (dated 28 Sep 90)	HiTEC 318
◆	HiTEC 7744 (<i>polyolefin phenolic amine (C28-C250)</i>).	2	Waste water, Bottom sediment sludge (wood preserving process) (dated 25 Feb 83)	HiTEC 370
◆	HiTEC 7829 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	Waste water (coal tar distillation) (dated 20 Apr 94)	HiTEC 612
◆	HiTEC 7957 (<i>diphenylamines, alkylated</i>).	2	Waste water (pond waste water) (dated 11 Sep 97)	HiTEC 613
◆	HiTEC 9268 (<i>polybutyl phenol</i>).	4	Waste water (Santos, Brazil) (dated 15 Jan 93)	HiTEC 615
◆	HiTEC 9290 (<i>aryl polyolefin (C11-C50)</i>).	2	The commodities entered below are ones that we had evaluated for carriage and had included in our rules but ones that information we hold indicates no longer to be valid bulk liquid cargoes. We are removing them from our rules, tables, and lists. Again, they are:	HiTEC 619
◆	HiTEC 9298 (<i>aryl polyolefin (C11-C50)</i>).	2	Potassium polysulfide, Potassium thiosulfate solution (41% or less)	HiTEC 644
◆	LUBRIZOL 3580P (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	Propanil, Mesityl oxide, Isophorone mixture	HiTEC 646
◆	LUBRIZOL 4720A (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	Trifluralin in Xylene	HiTEC 648
◆	LUBRIZOL 4723B (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	The following commodities, being ones whose classifications the IMO cancelled or ones the Coast Guard believes are no longer viable bulk liquid cargoes, are no longer transportable by the water mode as cargoes in bulk.	HiTEC 685
◆	LUBRIZOL 4837W (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	A-964	HiTEC 921
◆	LUBRIZOL 4856J (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	AL 150	HiTEC 1102
◆	LUBRIZOL 4887 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	Alkaryl polyethers (C65-C95)	HiTEC 2403
◆	LUBRIZOL 4898S (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	Alcohol(C9-C11)(primary)ethoxylated	HiTEC 2769
◆	LUBRIZOL 4911F (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	AMOCO 2400	HiTEC 2831
◆	LUBRIZOL 4912 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	AMOCO 8072F	HiTEC 2837
◆	LUBRIZOL 4923	2	AMOCO 9267	HiTEC 2908
◆	LUBRIZOL 4975G (<i>diphenylamines, alkylated</i>).	2	Antifreeze 511	HiTEC 2933
◆	LUBRIZOL 73725 (<i>mineral oil</i>) ..	2	AO 5301	HiTEC 4103
◆	LUBRIZOL 74888 (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	ARCOL 1131 (1,2,3-propanetriol polymer)	HiTEC 4105
◆	LUBRIZOL 74890 (<i>diphenylamines, alkylated</i>).	2	ARCOL Polyol 1905	HiTEC 4738
◆	LUBRIZOL 78008 (<i>oleylamine</i>)	2	Atar cresylic acid	HiTEC 4782
◆	LUBRIZOL 8888Z (<i>zinc alkyl dithiophosphate (C3-C14)</i>).	2	BEROLAMINE 20	HiTEC 4940
◆	MOBILAD 232 (<i>decyl alcohol (all isomers)</i>).	2	Brake fluid component 5/9	HiTEC 4941
◆	Natural (animal/vegetable) fatty acids, (C16-C20) sat/unsat., methyl esters and triglycerides, sulfurized.	1	Brake Fluid ET 462	HiTEC 4949
◆	t-Octylamine	1	CALTEX CODE 599067	HiTEC 4950
◆	OLOA 246B (<i>calcium long chain alkaryl sulfonate (C11-C50)</i>).	2	CALTEX CODE 599178	HiTEC 4961
◆	SAP 3333 (<i>calcium long-chain alkyl salicylate (C13+)</i>).	1	Caustic and petroleum residue (dated 30 Mar 90)	HiTEC 4963A
◆	TFA-4655 (<i>xylene-toluene mixture and polyolefin amine</i>).	2	1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone	HiTEC 4980
			Contaminated waste water (dated 20 Mar 85)	HiTEC 4992
			Co-solvent alcohol	HiTEC 4997
			Crude DiPe	HiTEC 6653
			Depitched tar acid	HiTEC 7011
			Diphenyl cresyl phosphate	HiTEC 7023
			2-Ethylhexyl-2-(2,4-dichlorophenoxy) propionate	HiTEC 7034
				HiTEC 7049
				HiTEC 7065
				HiTEC 7084
				HiTEC 7100
				HiTEC 7160
				HiTEC 7169
				HiTEC 7198
				HiTEC 7222
				HiTEC 7239
				HiTEC 7243
				HiTEC 7303
				HiTEC 7304
				HiTEC 7305
				HiTEC 7333
				HiTEC 7334
				HiTEC 7365
				HiTEC 7383
				HiTEC 7405
				HiTEC 7410
				HiTEC 7465
				HiTEC 7562
				HiTEC 7569
				HiTEC 7576
				HiTEC 7635
				HiTEC 7636
				HiTEC 7650
				HiTEC 7714
				HiTEC 7720
				HiTEC 7741
				HiTEC 7744
				HiTEC 7829
				HiTEC 7957
				HiTEC 9268
				HiTEC 9290
				HiTEC 9298
				Light end/Heavy end Chlorinated hydrocarbon mixture

LINCOL 86M
LM 114
LUBRIZOL 3580P
LUBRIZOL 4720A
LUBRIZOL 4723B
LUBRIZOL 4837W
LUBRIZOL 4856J
LUBRIZOL 4887
LUBRIZOL 4898S
LUBRIZOL 4911F
LUBRIZOL 4912
LUBRIZOL 4923
LUBRIZOL 4975G
LUBRIZOL 73725
LUBRIZOL 74888
LUBRIZOL 74890
LUBRIZOL 78008
LUBRIZOL 8888Z
M-50-A
MANRO SXS 40
MCP 121
MCP 239B
MCP 955A
MCP 1064D
MD-E-18
MD-E-20
MOBILAD 232
MOBILAD C241B
MOBIL Stock 2631
Natural (animal/vegetable) fatty acids,
(C16-C20) sat/unsat., methyl esters and
triglycerides, sulfurized
t-Octylamine
OGA 558R
OGA 4784
OLOA 246B
OLOA 758A
OLOA 2564A
OLOA 2564B
OLOA 2820
OLOA 2990
OLOA 6039M
OLOA 6063U
OLOA 6109
OLOA 6121
OLOA 6741
OLOA 6743
OLOA 6832
OLOA 6847
OLOA 6847D
OLOA 6848
OLOA 6853
OLOA 6854
OLOA 6856
OLOA 6858
OLOA 6859
OLOA 6859D
OLOA 6881
OLOA 6981
OLOA 8167FA
OLOA 8167G
OLOA 8172

OLOA 8172A
OLOA 8172M
OLOA 8177
OLOA 8177C
OLOA 8179
OLOA 8179A
OLOA 8380G
OLOA 8380V
OLOA 857P
OLOA 8804E
OLOA 8818
OLOA 8850
OLOA 8858
OLOA 8858B
OLOA 9091
OMA 431 CS(D)
OMA 4391
ORA 502
ORA 702
OXYSOLVE 80
PARADYNE 740
PARANOX 1155
PARANOX 5277
PARAPOID 48
Pentacos(oxypropane-2,3-diyl)s
Pibsa
POBA
Pond waste water (dated 23 Mar 87)
Potassium polysulfide, Potassium thiosulfate
solution (41% or less)
Propanil, Mesityl oxide, Isophorone mixture
Rainwater contaminated with pink/red water
(dated 19 Oct 83)
REOFOS 95
REOFOS 664
RGA 900
SAP 3333
SAP 9413
Sodium chromate liquor
STOCK 1462
Stock 2921.0
TFA-4655
TFA-4711
TLA 2400
TLA 2418
TLA 2421
TLA 2422
TLA-2422A
TLA 2427
TLA 2906A
TLA 2907
TLA 2907A
TRILIN (TRIFLURALIN)
Trifluralin in Xylene
VAMMAR D9
VAMMAR D10
VORANOL CP 4100 S Polyol
Waste water (aniline production) (dated 28
Sep 90)
Waste water, Bottom sediment sludge (wood
preserving process) (dated 25 Feb 83)

Waste water (coal tar distillation) (dated 20
Apr 94)
Waste water (Pond waste water) (dated 11
Sep 97)
Waste water (Santos, Brazil) (dated 15 Jan 93)

Current Hazardous Materials in Bulk

(a) We add a number of new cargoes to 46 CFR Tables 30.25-1, 151.05, and 1 and 2 of part 153. These comprise cargoes recently authorized by the Coast Guard and cargoes headed for the two Chemical Codes of the IMO—"International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk" (IBC Code) and "Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk" (BCH Code)—but not yet included in our rules. Among these cargoes are new ones approved at the IMO Sub-Committee on Bulk Liquids and Gases (BLG), first session, BLG 1, held March 4-8, 1996; the second intersessional meeting (ESPH 2), held September 23-7, 1996; the BLG 2 meeting held April 7-11, 1997; the ESPH 3 meeting held October 13-7, 1997; the BLG 3 meeting held July 6-10, 1998; the ESPH 4 meeting held September 28 through October 2, 1998; the BLG 4 meeting held April 12-6, 1999; and the ESPH 5 meeting held October 18-22, 1999.

(b) From 46 CFR Table 30.25-1, Tables I and II of part 150, Table 151.05, and Tables 1 and 2 of part 153, we remove all bold-faced type wherever it appears and add, in its place, Roman type. Likewise, in the "Cargoes" columns, we remove every "•" and "+" that precedes the name of a cargo.

(c) We revise the "Compatibility of Cargoes" tables in part 150 to include the chemicals added by this rule to the tables of hazardous materials in 46 CFR parts 30, 151, and 153.

Of specific note, we revised the Compatibility Groups of several lube-oil additives (LOAs). After discussions with the manufacturer of the LOAs' reactivity potential, we determined that the Group to which we had originally assigned each does not represent its true reactivity.

	Current	New
Calcium long chain alkyl phenolicamine (C8-C40)	Group 7	Group 9.
Polyolefin amide alkeneamine borate (C28-C250)	Group 34	Group 33.
Polyolefin amide alkeneamine polyol	Group 7	Group 20.
Polyolefin amine (C28-C250)	Group 7	Group 33.
Polyolefin amine in alkyl- benzenes (C2-C4)	Group 7	Group 32.
Polyolefin aminoester salt	Group 7	Group 34.
Sulfurized polyolefinamide alkene-amines (C28-C250)	Group 7	Group 33.

This rule also corrects several current names of cargoes and cross-refers to other entries in part 150.

(d) In its continued effort to maintain consistency between the rules on tankships (part 153) and those on tank barges (part 151), where applicable, the Coast Guard is adding to Table 1 of part 153 the special requirement in § 153.933, "Chemical protective clothing," for the commodities below:

- (1) Acetic acid
- (2) Acetic anhydride
- (3) Formic acid
- (4) Phosphoric acid
- (5) Propionic acid

By this means the Coast Guard brings Table 1 of part 153, like § 153.933, into substantial conformity with the rule on tank barges at § 151.50-73, "Chemical protective clothing."

(e) In keeping with paragraph (d), the Coast Guard is also applying the special requirement of § 153.933 to the entry "Diethyl sulfate." (The manufacturer recommended this.)

(f) We will "downgrade" many cargo names in the various tables and lists. These are names whose use as proper cargo names we currently allow but that we cross-refer to other names. That is, they will become non-names (by appearing in *Italics* and cross-referring to proper cargo names). See the Table of Changes.

(g) Cargo-specific actions of particular interest:

(1) Alkyl (C7-C9) nitrates. Correct the Pollution Category from A to B in Table 1 of 46 CFR part 153.

(2) Ammonium bisulfite. When ammonium bisulfite entered Table 1 of part 153 [60 FR 34051 (June 29, 1995)], we inadvertently omitted special requirement § 153.526, Toxic vapor detectors. With this rule we correct that oversight.

(3) Ammonium sulfide solution (45% or less). We correct the Pollution Category from C to B in Table 1 of part 153.

(4) Benzene hydrocarbon mixtures (containing Acetylenes) (having 10% Benzene or more), Benzene hydrocarbon mixtures (having 10% Benzene or more), and Benzene, Toluene, Xylene mixtures (having 10% Benzene or more). In Table 151.05, we added § 151.50-60 to the section Special Requirements. Final rule CGD 88-040 [56 FR 52112 (October 17, 1991)], which added this requirement, inadvertently did not also add it to the three entries in our rules on tank barges. We are correcting that oversight.

(5) Carbon tetrachloride. In Table I of part 150, carbon tetrachloride, Group 36 (Halogenated hydrocarbons), is not

compatible with tetraethylenepentamine or triethylenetetramine, both Group 7 (Aliphatic amines).

(6) Caustic potash solution. We correct the Pollution Category from D to C in Table 1 of part 153.

(7) Dodecyl hydroxypropyl sulfide. The IMO has finalized the set of requirements for carriage of this commodity, bringing about two significant changes. First, IMO originally assigned this commodity to a cargo-containment system of type II (ship type 2) with the special requirement in § 153.409, High level alarms, and with a Provisional Pollution Category of A, or "[A]." Second, it has finally assigned it to a cargo-containment system of type I (ship type 1) with the special requirement in § 153.408, Tank overflow control, and with a final Pollution Category of A. The Coast Guard is revising its lists and tables to reflect these final assignments.

(8) Fatty acids (saturated, C13+). IMO has revised the cargo name "fatty acids (saturated, C13+)" to read "fatty acids (saturated, C14+)," a change in the carbon-range designator. It had to do this because an entry exists for "tridecanoic acid" a C13 fatty acid with a Pollution Category of B. But the current name "fatty acids (saturated, C13+)," Pollution Category III, includes "tridecanoic acid." The Coast Guard is revising its lists and tables to pick up this change.

(9) 2-Hydroxyethyl acrylate. The Coast Guard has reevaluated the Compatibility Group, Part 150, for the cargo "2-hydroxyethyl acrylate" and assigned the cargo to Group 14, Acrylates. Currently, 2-Hydroxyethyl acrylate resides in Group 0 with restriction against stowage adjacent to Groups 2, 3, 5 to 8, and 12 in the Compatibility Chart. Its reassignment to Group 14 will retain both the current prohibition against stowage adjacent to Groups 5, 6, and 12 and the standard prohibition for Group 14 against stowage adjacent to Groups 2, 3, 7, and 8. Thus, there is no change in the actual requirements.

(10) Polyolefin amide alkeneamine (C28+). The Coast Guard has reevaluated the Compatibility Group, Part 150, for the cargo "Polyolefin amide alkeneamine (C28+)." Discussions with a manufacturer of this commodity have shown that the current assignment, to Group 7 (Amines), is inappropriate for these materials, which contain only a small fraction of unreacted amine and whose mineral-oil content acts as a buffer to any possible remaining hazardous reactivity. Upon review, we have determined that Group 33 (Miscellaneous hydrocarbon

mixtures) is the more appropriate Compatibility Group for this cargo.

(11) Sodium sulfide solution (15% or less). We correct the Pollution Category from C to B in Table 1 of Part 153.

(12) 1,2,3-Trichloropropane. In table I of Part 150, 1,2,3-trichloropropane, Group 36 (Halogenated hydrocarbons), is not compatible with ethylenediamine, diethylenetriamine, or triethylenetetramine, all of Group 7 (Aliphatic amines).

(h) We otherwise correct or modify, as appropriate, current entries in the various lists and tables.

(i) New entries to Table 30.25-1:

Alcohol (C9-C11) poly(2.5-9)ethoxylate
Alkanes (C6-C9)
Alkyl ester copolymer (C4-C20)
Alkyl (C7-C11) phenol poly(4-12)ethoxylates
Alkyl (C8-C40) phenol sulfide
Alkyl (C9-C15) phenyl propoxylate
Alkyl sulfonic acid ester of phenol tert-Amyl methyl ether
Butyl alcohol (all isomers)
Calcium long chain alkyl (C5-C10) phenate
Calcium long chain alkyl (C11-C40) phenate
Copper salt of long chain (C17+) alkanolic acid
Dialkyl (C8-C9) diphenylamines
Ditridecyl adipate
Dodecyl hydroxypropyl sulfide
Ethoxylated long chain (C16+) alkyloxyalkanamine
Ethyl tert-butyl ether
Glyphosate solution (not containing surfactant)
1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)naphthalene mixture
2-Methyl-1,3-propanediol
Phosphate esters, alkyl (C12-C14) amine
Polyisobutenyl anhydride adduct
Polyolefin amide alkeneamine (C17+)
Potassium salt of polyolefin acid
Sulfurized fat (C14-C20)
Sulfurized polyolefinamide alkene (C28-C250) amine

(j) New entries to Table 151.05:

Alkylbenzenesulfonic acid (greater than 4%)
Cashew nut shell oil (untreated)
Cyclohexanone, Cyclohexanol mixture
Cyclopentadiene, Styrene, Benzene mixture
Dodecyl phenol
Glyoxylic acid solution (50% or less)
Toluenediamine
o-Toluidine

(k) New entries to Table 1 of Part 153:

Alcohol (C9-C11) poly (2.5-9) ethoxylate
Alkenyl (C16-C20) succinic anhydride
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer)

Alkyl (C8–C9) phenylamine in aromatic solvent
 Alkyl (C10–C20, saturated and unsaturated) phosphite
 Alkyl (C8–C10) polyglucoside solution (65% or less)
 Alkyl (C12–C14) polyglucoside solution (55% or less)
 Alkyl (C8–C10)/(C12–C14): (40% or less/60% or more) polyglucoside solution (55% or less)
 Alkyl (C8–C10)/(C12–C14): (50/50%) polyglucoside solution (55% or less)
 Alkyl (C8–C10)/(C12–C14): (60% or more/40% or less) polyglucoside solution (55% or less)
 tert-Amyl methyl ether
 Barium long chain (C11–C50) alkaryl sulfonate
 Calcium long chain alkyl (C5–C10) phenate
 1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one
 N,N-Dimethyldodecylamine
 Diphenylamine (molten)
 Dithiocarbamate ester (C7–C35)
 Dodecyl hydroxypropyl sulfide

Dodecyl-Octadecyl methacrylate mixture
 Ethyl tert-butyl ether
 S-Ethyl dipropylthiocarbamate
 Glyoxylic acid solution (50% or less)
 Hexamethylenediamine (molten)
 Hexamethylene diisocyanate
 N,N-bis(2-Hydroxyethyl) oleamide
 3-(Methylthio)propionaldehyde
 Nitroethane, 1-Nitropropane (each 15% or more) mixture
 Paraldehyde-Ammonia reaction product
 n-Pentanoic acid (64%), 2-Methyl butyric acid (36%) mixture
 Phosphate esters, alkyl (C12–C14) amine
 Polyisobutenamine in aliphatic (C10–C14) solvent
 Polyolefinamine (C28–C250)
 Poly(tetramethylene ether) glycols (mw 950–1050)
 Potassium thiosulfate (50% or less)
 1,2,4-Trichlorobenzene (molten)
 Xylenes, Ethylbenzene (10% or more) mixture
 (l) New entries to Table 2 of Part 153:
 Ammonium thiosulfate solution (60% or less)

Sulfonated polyacrylate solution
 Titanium dioxide slurry

(m) We have determined three entries in our tables and lists not to be bulk liquid cargoes, and will delete them. They are:

(1) Potassium polysulfide, Potassium thiosulfate solution (41% or less)

(2) Propanil, Mesityl oxide, Isophorone mixture

(3) Trifluralin in Xylene

One issue addressed in the supplemental material in the docket involves the supposed potential for incompatible stowage of isocyanate cargoes, Group 12, and water solutions of chemical cargoes. (See Appendix I [60 FR 34053 (June 29, 1995)]). Shippers and carriers of such cargoes should review the supplemental material available in the docket [USCG 2000–7079] for further information.

This Table of Changes lists all changes to existing entries with a brief explanation where helpful:

TABLE OF CHANGES

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Acetic acid	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
Acetic anhydride	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
Alachlor technical and Alachlor technical (90% or more).	Alachlor	No change	No change	
Alcohols (C13 and above)	.....	.....	.....	Delete the entry in its entirety.
Alcohols (C13+)	Alcohols (C13+) Including: Oleyl alcohol (octadecanol) Pentadecanol Tallow alcohol Tetradecanol Tridecanol	Not applicable	Not applicable	46 CFR 150, Table I.
Alcohol(C12-C15) poly(1-3)ethoxylates.	.....	.....	.....	Delete the entry in its entirety.
Alcohol(C12-C15) poly(3-11) ethoxylates.	.....	.....	.....	Delete the entry in its entirety.
Alcohol(C12-C15) poly(1-6)ethoxylates.	Alcohol(C12-C16) poly(1-6)ethoxylates.	No change	No change	Increase upper carbon, "C" range from "C15" to "C16"
Alcohol(C12-C15) poly(7-19)ethoxylates.	Alcohol(C12-C16) poly(7-19)ethoxylates.	No change	No change	Increase upper carbon, "C" range from "C15" to "C16".
Alcohol(C12-C15) poly(20+) ethoxylates.	Alcohol(C12-C16) poly(20+) ethoxylates.	No change	No change	Increase upper carbon, "C" range from "C15" to "C16".

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Alkanes (C6-C9)	Alkanes (C6-C9) Including: Heptanes Hexanes Nonanes Octanes	Not applicable	Not applicable	46 CFR 150, Table I.
n-Alkanes (C10+)	n-Alkanes (C10+) Including: Decanes Dodecanes Heptadecanes Tridecanes Undecanes	Not applicable	Not applicable	46 CFR 150, Table I.
Alkenylsuccinic anhydride	Alkenyl(C16-C20) succinic anhy- dride.	#	D	
Alkyl(C3-C4) benzenes ...	Alkyl(C3-C4) benzenes Including: Butylbenzenes Propylbenzenes	Not applicable	Not applicable	46 CFR 150, Table I.
Alkyl(C5-C8) benzenes ...	Alkyl(C5-C8) benzenes Including: Amylbenzenes Heptylbenzenes Hexylbenzenes Octylbenzenes	Not applicable	Not applicable	46 CFR 150, Table I.
Alkyl(C9-C17) benzenes ..	.....	.....	.....	Delete the entry in its entirety.
Alkyl(C9+) benzenes	Alkyl(C9+)benzenes Including: Decylbenzenes Dodecylbenzenes Nonylbenzenes Tetradecylbenzenes Tetrapropylbenzenes Tridecylbenzenes Undecylbenzenes	Not applicable	Not applicable	46 CFR 150, Table I.
Alkyl ester copolymer (C6-C18).	Alkyl ester copolymer (C4-C20) ...	[D]	D	
Alkyl(C7-C9) nitrates	No change	A	B	46 CFR 153, Table I: Correct Pollu- tion Category.
Alkyl(C7-C12) phenol poly(4-12)ethoxylate.	Alkyl(C7-C11) phenol poly(4- 12)ethoxylate.	No change	No change	Correct the upper carbon, "C" range from "C12" to "C11".
Alkylphenol sulfide (C8- C40).	Alkyl (C8-C40) phenol sulfide	[D]	D	
Ammonia, aqueous, see Ammonium hydroxide.	Ammonia, aqueous [IMO cargo name], see Ammonium hydrox- ide.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Ammonium bisulfite solu- tion (70% or less).	No change	No change	No change	46 CFR 153, Table 1: Special re- quirement .526 added.
Ammonium sulfide solu- tion (45% or less).	No change	C	B	46 CFR 153, Table I: Correct Pollu- tion Category.
(commercial, iso-, n-, sec-) Amyl acetate.	.....	.....	.....	Delete the entry in its entirety.
Amyl acetate (iso-, n-) .....	.....	.....	.....	Delete the entry in its entirety.
Amylene	Pentene	No change	No change	

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Animal and Fish acid oils and distillates, n.o.s.	Animal and Fish acid oils and distillates, n.o.s. Including: Cod liver oil Lanolin Neatsfoot oil Pilchard oil Sperm oil	Not applicable	Not applicable	46 CFR 150, Table I.
Animal and Fish oils, n.o.s.	Animal and Fish oils, n.o.s. Including: Animal acid oil Fish acid oil Lard acid oil Mixed acid oil Mixed general acid oil Mixed hard acid oil Mixed soft acid oil	Not applicable	Not applicable	46 CFR 150, Table I.
Benzene hydrocarbon mixtures (containing Acetylenes) (having 10% Benzene or more).	No change	No change	Not applicable	46 CFR 151, Table 151.05: Special requirement .50-60 added.
Benzene hydrocarbon mixtures (having 10% Benzene or more).	No change	No change	Not applicable	46 CFR 151, Table 151.05: Special requirement .50-60 added.
Benzene, Toluene, Xylene mixtures (having 10% Benzene or more).	No change	No change	Not applicable	46 CFR 151, Table 151.05: Special requirement .50-60 added.
Benzene hydrocarbon mixtures ² (having 10% Benzene or more).	No change	No change	No change	46 CFR 153, Table 1: Special requirement "16" corrected to read ".316".
(iso-, n-) Butyl acetate .....	.....	.....	.....	Delete the entry in its entirety.
(sec-) Butyl acetate .....	.....	.....	.....	Delete the entry in its entirety.
iso-Butyl acrylate .....	.....	.....	.....	46 CFR 151, Table 151.05: Delete from table.
n-Butyl acrylate .....	.....	.....	.....	46 CFR 151, Table 151.05: Delete from table.
(iso-, n-) Butyl acrylate ....	.....	.....	.....	Delete the entry in its entirety.
Butyl alcohol (iso-, n-, sec-, tert-).	Butyl alcohol (all isomers)	No change	No change	
Butylbenzene and Butylbenzene (all isomers).	Alkyl(C3-C4) benzenes	No change	No change	
Butylene polyglycol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
iso-Butyl isobutyrate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
n-Butyl butyrate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
iso-Butyraldehyde .....	.....	.....	.....	46 CFR 153, Table 1: Delete from table.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
n-Butyraldehyde .....	.....	.....	.....	46 CFR 153, Table 1: Delete from table.
Calcium alkyl salicylate ....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Calcium long chain alkyl phenolic amine (C8-C40).	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 9, from Group 7.
Carbon tetrachloride .....	.....	.....	.....	Exception to 46 CFR 150, Table I.
Caustic potash solution ...	No change	D	C	46 CFR 153, Table I: Correct Pollution Category, and Hazard category from "S" to "S/P".
Cresylic acid, sodium salt solution, see Cresylate spent caustic.	Cresylic acid, sodium salt solution [IMO cargo name], see Cresylate spent caustic.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Cumene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Cyclopentadiene, Styrene, Benzene mixture.	.....	.....	.....	46 CFR 151, Table 151.01: Add Special Requirement 151.50-60.
Cyclopentadiene polymers	.....	.....	.....	46 CFR 30, Table 30.25-1: Delete the entry in its entirety.
Decane .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Decylbenzene	Alkyl(C9+)benzenes	D	III	
Dextrose solution	Glucose solution	No change	No change	
Dialkyl(C10-C14) benzenes.	Alkyl(C9+)benzenes	D	III	
Dialkyl(C7-C13) phthalates.	Dialkyl(C7-C13) phthalates	No change	No change	46 CFR 150, Table I.
	Including: Diisodecyl phthalate Diisononyl phthalate Dinonyl phthalate Ditridecyl phthalate Diundecyl phthalate			
Dibutyl carbinol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
1,1-, 1,2-, or 1,3-Dichloropropane.	.....	.....	.....	Delete the entry in its entirety.
Diethylaminoethanol, see Diethylethanolamine.	Diethylaminoethanol [IMO cargo name], Diethylethanolamine.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Diethylene glycol butyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol butyl ether acetate.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Diethylene glycol ethyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol ethyl ether acetate.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol n-hexyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol methyl ether acetate.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylene glycol propyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diethylenetriamine .....	.....	.....	.....	Exception to 46 CFR 150, Table I.
Diethyl ether, see Ethyl ether.	Diethyl ether [IMO cargo name], see Ethyl ether.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Di-(2-ethylhexyl) phthalate	Diocetyl phthalate	D	III	Cross-reference to the correct proper cargo name.
Diethyl sulfate	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
Diisobutyl carbinol	Diisobutyl carbinol [industrial name], see also Nonyl alcohol.	.....	.....	46 CFR 150, Table I: Identify industrial cargo name.
Diisodecyl phthalate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Diisononyl phthalate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Dimethylpolysiloxane	Polydimethylsiloxane .....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
2,2-Dimethyl propane-1,3-diol.	2,2-Dimethylpropane-1,3-diol (molten or solution).	No change	No change	
Dinonyl phthalate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Dipropylene glycol butyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Dipropylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Ditridecyl phthalate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Diundecyl phthalate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Dodecane	n-Alkanes (C10+)	No change	No change	
Dodecyl alcohol	Dodecyl alcohol [IMO cargo name], see Dodecanol.	.....	.....	46 CFR 150, Table I: Identify IMO Cargo name.
Dodecylbenzene	Alkyl(C9+)benzenes	No change	No change	
Dodecyl hydroxypropyl sulfide.	.....	[A]	A	46 CFR 153, Table I: Ship type I from II; Sp. Requirement .408 replacing .409.
Ethoxylated alcohols, C11-C15.	.....	.....	.....	46 CFR 30, Table 30.25-1: Delete the entry in its entirety.
Ethylenediamine .....	.....	.....	.....	Exception to 46 CFR 150, Table I.
Ethylene glycol ethyl ether acetate.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Ethylene glycol hexyl ether.	Ethylene glycol monoalkyl ethers	.....	.....	46 CFR 153, Table 1: Add the cross-reference under the first entry in the table.
Ethylene glycol monoalkyl ethers.	Ethylene glycol monoalkyl ethers Including: 2-Ethoxyethanol Ethylene glycol butyl ether Ethylene glycol tert-butyl ether Ethylene glycol ethyl ether +Ethylene glycol hexyl ether Ethylene glycol methyl ether Ethylene glycol n-propyl ether Ethylene glycol isopropyl ether	.....	.....	46 CFR 150, Table I.
Ethylene glycol monoalkyl ethers.	.....	.....	.....	46 CFR 153, Table 1: Delete the second entry in its entirety.
Ethylene glycol propyl ether.	.....	.....	.....	Delete the entry in its entirety.
2-Ethylhexanoic acid .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
2-Ethylhexanol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
2-Ethylhexyl acrylate .....	.....	.....	.....	46 CFR 151, Table 151.05: Temp. control install. Column, replace I-D with NA.
Fatty acid (saturated, C13 and above).	.....	.....	.....	Delete the entry in its entirety.
Fatty acid (saturated, C13+).	Fatty acid (saturated, C14+)	No change	No change	Increase lower carbon, "C" range from "C13" to "C14".
Formic acid	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
Glycidyl ester of C10 trialkyl acetic acid, see Glycidyl ester of tridecyl acetic acid.	Glycidyl ester of C10 trialkyl acetic acid [IMO cargo name], see Glycidyl ester of tridecyl acetic acid.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Heptadecane .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Heptane (all isomers)	Alkanes (C6-C9)	No change	No change	
Hexaethylene glycol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Hexane (all isomers)	Alkanes (C6-C9)	No change	No change	
Hydrofluorosilicic acid (25% or less).	.....	.....	.....	46 CFR 151, Table 151.05: Delete from table.
Hydroxy terminated polybutadiene, see Polybutadiene, hydroxyl terminated.	Hydroxy terminated polybutadiene [IMO cargo name], see Polybutadiene, hydroxy terminated.	Not applicable	Not applicable	Revise US cargo name. 46 CFR 150, Table I: Identify IMO Cargo name.
Isopropylbenzene (Cumene).	.....	.....	.....	46 CFR 153, Table 1: A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Lauryl polyglucose (50% or less).	Alkyl(C12-C14) polyglucoside solution (55% or less).	[B]	B	46 CFR 153, Table 1.
Lecithin (soyabean)	Lecithin	[D]	III	
Lignin sulfonic acid, sodium salt solution.	Sodium lignosulfonate solution or Lignin liquor.	No change	No change	46 CFR 153, Table 2.
Magnesium nonyl phenol sulfide.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Magnesium sulfonate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
N-(2-Methoxy-1-methylethyl)-2-ethyl-6-methyl chloroacetanilide, see Metolachlor.	N-(2-Methoxy-1-methylethyl)-2-ethyl-6-methyl chloroacetanilide [IMO cargo name], see Metolachlor.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Methoxy triglycol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Methyl butynol	2-Methyl-2-hydroxy-3-butyne	No change	No change	46 CFR 30, Table 30.25-1: Delete from table; safety hazard.
2-Methyl-2-hydroxy-3-butyne.	No change	III	D	46 CFR 153, Table 1.
Methyl isobutyl carbinol ...	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Methyl pentene; 2-Methyl pentene; 4-Methyl pentene;	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
o-Nitrochlorobenzene .....	.....	.....	.....	Delete the entry in its entirety.
Nonane (all isomers)	Alkanes (C6-C9)	No change	No change	
Nonyl phenol (ethoxylated).	.....	.....	.....	Delete the entry in its entirety.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Nonyl phenol poly(4-12) ethoxylates.	Nonyl phenol poly(4+) ethoxylates	No change	No change	
Nonyl phenol sulfide (90% or less).	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Octane (all isomers)	Alkanes (C6-C9)	No change	No change	
Octyl nitrates (all isomers)	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Oil misc: Coconut oil, esterified.	.....	.....	.....	46 CFR 30, Table 30.25-1: Delete the entry in its entirety.
Oil misc: Coconut oil, methyl ester.	.....	.....	.....	46 CFR 30, Table 30.25-1: Delete the entry in its entirety.
Oil misc: Cottonseed, fatty acid.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Oil misc: Palm oil, methyl ester.	.....	.....	.....	46 CFR 30, Table 30.25-1: Delete the entry in its entirety.
Organic amine 70 .....	.....	.....	.....	46 CFR 30, Table 30.25- 1: Delete the entry in its entirety.
n-Paraffins (C10-C20) .....	.....	.....	.....	Delete the entry in its entirety.
Pentasodium salt of Diethylenetriamine pentaacetic acid solution.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Pentene, Miscellaneous hydrocarbon mixture.	.....	.....	.....	Delete the entry in its entirety.
Phosphoric acid	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
Phthalate plasticizers .....	.....	.....	.....	46 CFR 30, Table 30.25- 1: Delete the entry in its entirety.
Pinene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Polyalkylene glycol butyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.	Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether. Including: Diethylene glycol butyl ether Diethylene glycol ethyl ether Diethylene glycol n-hexyl ether Diethylene glycol methyl ether Diethylene glycol n-propyl ether Dipropylene glycol butyl ether Dipropylene glycol methyl ether Polypropylene glycol methyl ether Triethylene glycol butyl ether Triethylene glycol ethyl ether Triethylene glycol methyl ether Tripropylene glycol methyl ether	Not applicable	Not applicable	46 CFR 150, Table I.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate.	Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate. Including: Diethylene glycol butyl ether acetate Diethylene glycol ethyl ether acetate Diethylene glycol methyl ether acetate	Not applicable	Not applicable	46 CFR 150, Table I.
Polybutenyl succinimide ..	No Change	[D]	III	
Polybutadiene, hydroxyl terminated.	Polybutadiene, hydroxy terminated.	No change	No change	Revise name.
Polyethylene glycol monoalkyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Polyolefin amide alkeneamine borate (C28-C250).	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 33, from Group 34.
Polyolefin amide alkeneamine polyol.	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 20, from Group 7.
Polyolefin amine (C28-C250).	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 33, from Group 7.
Polyolefin amine in alkylbenzenes (C2-C4).	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 32, from Group 7.
Polyolefin aminoester salt	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 34, from Group 7.
Polypropylene .....	.....	.....	.....	Delete the entry in its entirety.
Polypropylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Potassium hydroxide solution, see Caustic potash solution.	Potassium hydroxide solution [IMO cargo name], see Caustic potash solution.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Potassium polysulfide, Potassium thiosulfate solution (41% or less).	.....	.....	.....	Delete the entry in its entirety.
Propanil, Mesityl oxide, Isophorone mixture.	.....	.....	.....	Delete the entry in its entirety.
Propionic acid	No change	No change	No change	46 CFR 153, Table 1: Protective clothing requirement added.
n-Propoxypropanol (propylene glycol propyl ether).	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
iso-Propylamine solution (70% or less).	.....	.....	.....	46 CFR 153, Table 1: Special Requirements column, replace .1010 with .1020.
iso-Propylbenzene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
n-Propylbenzene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Propylene carbonate	No change	[III]	III	
Propylene glycol n-butyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Propylene glycol ethyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Propylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Propylene glycol monoalkyl ether.	Propylene glycol monoalkyl ether Including: n-Propoxypropanol Propylene glycol n-butyl ether Propylene glycol ethyl ether Propylene glycol methyl ether	Not applicable	Not applicable	46 CFR 150, Table I.
Propylene glycol phenyl ether.	.....	[D]	D	
Propylene glycol propyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Rum .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Sodium hydroxide solution, see Caustic soda solution.	Sodium hydroxide solution [IMO cargo name], see Caustic soda solution.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Sodium naphthenate solution.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Sodium sulfide solution (15% or less).	No change	C	B	46 CFR 153, Table I: Correct Pollution Category.
Stearic acid .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Sulfurized polyolefinamide alkeneamines (C28-C250).	No change	Not applicable	Not applicable	46 CFR 150, Table I: To Group 33, from Group 7.
Tallow alcohol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Tetradecanol .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Tetradecylbenzene	Alkyl(C9+)benzenes	[D]	III	
Tetraethylenepentamine ..	.....	.....	.....	Exception to 46 CFR 150, Table I.
1,2,3,5-Tetramethylbenzene.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Tetrasodium salt of Ethylene-diaminetetraacetic acid solution.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Triarylphosphate .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
1,2,3-Trichloropropane .....	.....	.....	.....	Exception to 46 CFR 150, Table I.
Tridecane	n-Alkanes (C10+) .....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Tridecene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Tridecylbenzene	Alkyl(C9+)benzenes	[D]	III	
Triethylene glycol butyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Triethylene glycol ethyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Triethylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Triethylenetetramine .....	.....	.....	.....	Exception to 46 CFR 150, Table I.
Triflurlin in Xylene .....	.....	.....	.....	Delete the entry in its entirety.
2,2,4-Trimethyl penanediol-1,3-diisobutyrate.	.....	.....	.....	Delete the entry in its entirety.
Tripropylene .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Tripropylene glycol methyl ether.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Trisodium salt of N-(Hydroxyethyl) ethylenediaminetetraacetic acid solution.	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Trixylyl phosphate, see Trixylenyl phosphate.	Trixylyl phosphate [IMO cargo name], see Trixylenyl phosphate.	Not applicable	Not applicable	46 CFR 150, Table I: Identify IMO Cargo name.
Turpentine substitute .....	.....	.....	.....	A non-cargo name (i.e., Italicized) cross-referenced to a proper cargo name.
Undecylbenzene	Alkyl(C9+)benzenes	[D]	III	
Valeraldehyde (iso-, n-) ...	.....	.....	.....	46 CFR 151, Table 151.05: Delete from table.

TABLE OF CHANGES—Continued

Cargo Name		Pollution Category		Comments
Current	Proposed	Current	Proposed	
Vegetable oils, n.o.s.	Vegetable oils, n.o.s. Including: Beechnut oil Castor oil Cocoa butter Coconut oil Corn oil Cottonseed oil Groundnut oil Hazelnut oil Linseed oil Nutmeg butter Oiticica oil Olive oil Palm kernel oil Palm oil Peel oil (oranges and lemons) Perilla oil Poppy oil Raisin seed oil Rapeseed oil Rice bran oil Safflower oil Salad oil Sesame oil Soya bean oil Sunflower seed oil Tucum oil Tung oil Walnut oil	Not applicable	Not applicable	46 CFR 150, Table I.
Vegetable acid oils and distillates, n.o.s.	Vegetable acid oils and distillates, n.o.s. Including: Corn acid oil Cottonseed acid oil Dark mixed acid oil Groundnut acid oil Mixed acid oil Mixed general acid oil Mixed hard acid oil Mixed soft acid oil Rapeseed acid oil Safflower acid oil Soya acid oil Sunflower seed acid oil	Not applicable	Not applicable	46 CFR 150, Table I.

Regulatory Evaluation

This direct final rule is not a “significant regulatory action” under section 3(f) of Executive Order 12866 and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget has not reviewed it under that Order. It is not “significant” under the regulatory policies and procedures of the Department of Transportation (DOT) (44 FR 11040 (February 26, 1979)). This rulemaking will merely update lists of chemicals by adding cargoes to the lists that the Coast Guard already maintains and by making a few non-substantive editorial changes. We expect the

economic impact of this rule to be so minimal that a full Regulatory Evaluation under paragraph 10e of the regulatory policies and procedures of DOT is unnecessary.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601–612), we considered whether this direct final rule will have a significant economic impact on a substantial number of small entities. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

Although this rule is exempt, we have reviewed it for potential impact on small entities. This rule will merely update lists of chemicals by adding cargoes recently authorized by the Coast Guard or added to the IMO Chemical Codes and by making a few non-substantive editorial changes.

Therefore, the Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities. We will evaluate comments submitted in response to this finding under the criteria in the section of this preamble called *Regulatory Information*.

Assistance for Small Entities

In accordance with section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104-121), the Coast Guard wants to assist small entities in understanding this direct final rule so that they can better evaluate its effects on them and participate in the rulemaking. If this rule affects your small business or organization and you have questions concerning its provisions or options for compliance, please call Mr. Curtis G. Payne at 202-267-1217.

Collection of Information

This direct final rule will call for no collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

Federalism

We have analyzed this direct final rule under Executive Order 13132 and have determined that this rule does not have sufficient implications for federalism to warrant the preparation of a Federalism Assessment. Because this rule would merely render current lists already maintained by the Coast Guard in its rules, there are no implications for Federalism.

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) and E.O. 12875, Enhancing the Intergovernmental Partnership (58 FR 58093 (October 28, 1993)), govern the issuance of Federal rules that impose unfunded mandates. An unfunded mandate is a requirement that a State, local, or tribal government or the private sector incur direct costs without the Federal Government's having first provided the funds to pay those costs. This direct final rule will not impose an unfunded mandate.

Taking of Private Property

This direct final rule will not effect a taking of private property or otherwise have taking implications under E.O. 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

Reform of Civil Justice

This direct final rule meets applicable standards in sections 3(a) and 3(b)(2) of E.O. 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Protection of Children

We have analyzed this direct final rule under E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and

does not create an environmental risk to health or risk to safety that may disproportionately affect children.

Environment

We considered the environmental impact of this direct final rule and concluded that, under figure 2-1, paragraph (34)(a) of Commandant Instruction M16475.1C, this rule is categorically excluded from further environmental documentation. This rule brings up to date lists already maintained by the Coast Guard in its rules to add chemicals already approved under those rules or under international law and clearly would have no impact on the environment. A Determination of Categorical Exclusion is available in the docket for inspection or copying where indicated under **ADDRESSES**.

List of Subjects

33 CFR Part 151

Administrative practice and procedure, Oil pollution, Penalties, Reporting and recordkeeping requirements, Water pollution control.

46 CFR Part 30

Cargo vessels, Foreign relations, Hazardous materials transportation, Penalties, Reporting and recordkeeping requirements, Seamen.

46 CFR Part 150

Hazardous materials transportation, Marine safety, Occupational safety and health, Reporting and recordkeeping requirements.

46 CFR Part 151

Cargo vessels, Hazardous materials transportation, Marine safety, Reporting and recordkeeping requirements, Water pollution control.

46 CFR Part 153

Administrative practice and procedure, Cargo vessels, Hazardous materials transportation, Marine safety, Reporting and recordkeeping requirements, Water pollution control.

For the reasons set out in the preamble, the Coast Guard amends 33 CFR Part 151 and 46 CFR parts 30, 150, 151, and 153 as follows:

Title 33—[Amended]

PART 151—VESSELS CARRYING OIL, NOXIOUS LIQUID SUBSTANCES, GARBAGE, MUNICIPAL OR COMMERCIAL WASTE, AND BALLAST WATER

1. The citation of authority for part 151 continues to read as follows:

Authority: 33 U.S.C. 1321 and 1903; Pub. L. 104-227 (110 Stat. 3034), E.O. 12777, 3 CFR, 1991 Comp., p. 351; 49 CFR 1.46.

§ 151.05 [Amended]

2. In § 151.05, add the definition “NLS means Noxious Liquid Substance.” preceding the definition of “NLS Certificate”.

3. Revise the listing in § 151.47 to read as follows:

§ 151.47 Category D NLSs other than oil-like Category D NLSs that may be carried under this part.

* * * * *

Acetophenone
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol
iso- & cyclo-Alkane (C10-C11)
Alkenyl(C11+)amine
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture
Alkyl dithiothiadiazole (C6-C24)
Alkyl ester copolymer (C4-C20)
Alkyl(C8-C40) phenol sulfide
Aluminum sulfate solution
Ammonium hydrogen phosphate solution
Ammonium nitrate solution (45% or less)
Ammonium nitrate, Urea solution (2% or less NH₃)
Ammonium phosphate, Urea solution
Ammonium polyphosphate solution
Ammonium sulfate solution (20% or less)
Amyl alcohol (iso-, n-, sec-, primary)
Animal and Fish oils, n.o.s. (*see also Oil, edible*)
Animal and Fish acid oils and distillates, n.o.s.
Aryl polyolefin (C11-C50)
Brake fluid base mixtures
Butylene glycol
iso-Butyl formate
n-Butyl formate
gamma-Butyrolactone
Calcium hydroxide slurry
Calcium long chain alkyl sulfonate (C11-C50)
Calcium long chain alkyl(C11-C40) phenate
Calcium long chain alkyl phenate sulfide (C8-C40)
Caprolactam solutions
Chlorine chloride solution
Citric acid (70% or less)
Coconut oil fatty acid methyl ester
Copper salt of long chain (C17+) alkanolic acid
Cyclohexanol
Decahydronaphthalene
Diacetone alcohol
Dialkyl(C8-C9) diphenylamines
Dialkyl(C7-C13) phthalates
Diethylene glycol
Diethylene glycol butyl ether acetate, *see* Poly(2-8) alkylene glycol monoalkyl(C1-C6) ether acetate

Diethylene glycol dibutyl ether	Isophorone	Perilla
Diethylene glycol ethyl ether, <i>see</i> Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether	Lactic acid	Pilchard
Diethylene glycol ethyl ether acetate, <i>see</i> Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether acetate	Latex (ammonia (1% or less) inhibited)	Soya bean (epoxidized)
Diethylene glycol methyl ether acetate, <i>see</i> Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether acetate	Long chain alkaryl sulfonic acid (C16– C60)	Sperm
Diethylene glycol phenyl ether	Magnesium long chain alkaryl sulfonate (C11–C50)	Tung
Diethylene glycol phthalate	Magnesium long chain alkyl phenate sulfide (C8–C20)	Whale
Di-(2-ethylhexyl)adipate	3-Methoxybutyl acetate	Olefin/Alkyl ester copolymer (molecular weight 2000+)
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	Methyl acetoacetate	Oleic acid
Diisobutyl ketone	Methyl alcohol	Palm kernel acid oil, methyl ester
<i>Diisodecyl phthalate</i> , <i>see</i> Dialkyl(C7– C13) phthalates	Methyl amyl ketone	Palm stearin
Diisononyl adipate	Methyl butenol	Pentaethylenhexamine
<i>Diisononyl phthalate</i> , <i>see</i> Dialkyl(C7– C13) phthalates	Methyl butyl ketone	Pentanoic acid
2,2-Dimethylpropane-1,3-diol	Methyl isobutyl ketone	Poly(2–8)alkylene glycol monoalkyl(C1– C6) ether, <i>Including</i> :
<i>Dinonyl phthalate</i> , <i>see</i> Dialkyl(C7–C13) phthalates	Methyl tert-butyl ether	Diethylene glycol butyl ether
Dipropylene glycol dibenzoate	Methyl butynol	Diethylene glycol ethyl ether
Dipropylene glycol methyl ether, <i>see</i> Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether	Methyl propyl ketone	Diethylene glycol n-hexyl ether
<i>Di-tridecyl phthalate</i> , <i>see</i> Dialkyl(C7– C13) phthalates	N-Methyl-2-pyrrolidone	Diethylene glycol methyl ether
<i>Diundecyl phthalate</i> , <i>see</i> Dialkyl(C7– C13) phthalates	Myrcene	Diethylene glycol n-propyl ether
Dodecenylsuccinic acid, dipotassium salt solution	Naphthalene sulfonic acid– formaldehyde copolymer, sodium salt solution	Dipropylene glycol butyl ether
Ethoxylated long chain (C16+) alkyloxyalkanamine	Nonanoic acid (all isomers)	Dipropylene glycol methyl ether
Ethoxy triglycol (<i>crude</i>)	Nonanoic, Tridecanoic acid mixture	Polypropylene glycol methyl ether
2-Ethyl-2-(hydroxymethyl)propane-1,3- diol, C8–C10 ester	Nonyl methacrylate	Triethylene glycol butyl ether
Ethyl acetate	Noxious Liquid Substance, (17) n.o.s.	Triethylene glycol ethyl ether
Ethyl acetoacetate	Octadecenoamide solution	Triethylene glycol methyl ether
Ethyl butanol	Octanoic acid	Tripropylene glycol methyl ether
Ethylenediaminetetraacetic acid, tetrasodium salt solution	Oil, edible:	Poly(2–8)alkylene glycol monoalkyl(C1– C6) ether acetate, <i>Including</i> :
Ethylene glycol	Babassu	Diethylene glycol butyl ether acetate
Ethylene glycol acetate	Beechnut	Diethylene glycol ethyl ether acetate
Ethylene glycol dibutyl ether	Castor	Diethylene glycol methyl ether acetate
Ethylene glycol methyl butyl ether	Cocoa butter	Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures
Ethylene glycol phenyl ether	Coconut	Polypropylene glycol methyl ether, <i>see</i> Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture	Cod liver	Polyalkyl(C10–C20) methacrylate
2-Ethylhexanoic acid, <i>see</i> Octanoic acid	Corn	Polybutenyl succinimide
Ethyl propionate	Cottonseed	Polyether (molecular weight 2000+)
Ferric hydroxyethylethylene diamine triacetic acid, trisodium salt solution	Fish	Polyethylene glycol monoalkyl ether
Formamide	Groundnut	Polyolefin amide alkeneamine (C17+)
Glycerine (83%), Dioxanedimethanol (17%) mixture	Hazelnut	Polyolefin amide alkeneamine (C28+)
Glycerol monooleate	Nutmeg butter	Polyolefin amide alkeneamine borate (C28–C250)
Glyoxal solution (40% or less)	Olive	Polyolefin amide alkeneamine polyol
Glyphosate solution (not containing surfactant)	Palm	Polyolefin anhydride
Heptanoic acid	Palm kernel	Polyolefin ester (C28–C250)
Hexamethylenediamine adipate	Peanut	Polyolefin phenolic amine (C28–C250)
Hexamethylenetetramine solutions	Poppy	Polyolefin phosphorosulfide, barium derivative
Hexanoic acid	Raisin seed	Polypropylene glycol
Hexanol	Rapeseed	n-Propyl acetate
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	Rice bran	Propylene glycol monoalkyl ether, <i>Including</i> :
	Safflower	n-Propoxypropanol
	Salad	Propylene glycol n-butyl ether
	Sesame	Propylene glycol ethyl ether
	Soya bean	Propylene glycol methyl ether
	Sunflower seed	Propylene glycol ethyl ether, <i>see</i> Propylene glycol monoalkyl ether
	Tucum	Propylene glycol methyl ether acetate
	Vegetable	Propylene glycol phenyl ether
	Walnut	Sodium acetate solution
	Oil, misc:	Sodium benzoate solution
	Animal, n.o.s.	Sodium carbonate solution
	Coconut oil, esterified	Soybean oil (epoxidized)
	Coconut oil, fatty acid methyl ester	
	Lanolin	
	Linseed	
	Neatsfoot	
	Oiticica	
	Palm oil, fatty acid methyl ester	
	Palm oil, methyl ester	

Sulfohydrocarbon (C3–C88)
 Sulfonated polyacrylate solution
 Sulfolane
 Sulfurized fat (C14–C20)
 Sulfurized polyolefinamide alkene(C28–C250)amine
 Tallow
 Tallow fatty acid
 Tetrasodium salt of
 Ethylenediaminetetraacetic acid solution
 Triethylene glycol butyl ether, see Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether
 Triethylene glycol ethyl ether, see Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether
 Triethylene glycol methyl ether, see Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether
 Triethyl phosphate
 Trimethylol propane polyethoxylate
 Tripropylene glycol methyl ether, see Poly(2–8)alkylene glycol monoalkyl(C1–C6) ether
 Trisodium salt of N-(Hydroxyethyl)-ethylenediamine triacetic acid solution
 Urea, Ammonium mono- and di-hydrogen phosphate, Potassium chloride solution
 Urea, Ammonium nitrate solution (2% or less NH₃)
 Urea, Ammonium phosphate solution
 Vegetable oils, n.o.s. (see also Oil, edible)
 Vegetable acid oils and distillates, n.o.s.
 Waxes:
 Candelilla
 Carnauba
 4. Amend § 151.49 by removing and reserving paragraph (b).
 Title 46—[Amended]

PART 30—GENERAL PROVISIONS

5. The citation of authority for part 30 continues to read as follows:

Authority: 46 U.S.C. 2103, 3306, 3703; 49 U.S.C. 5103, 5106; 49 CFR 1.45, 1.46; Section 30.01–2 also issued under the authority of 44 U.S.C. 3507; Section 30.01–5 also issued under the authority of Sec. 4109, Pub. L. 101–380, 104 Stat. 515.

6. In § 30.25–1, revise Table 30.25–1 to read as follows:

30.25–1 Cargoes carried in vessels certificated under the rules of this subchapter.

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TABLE 30.25–1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES

Cargo name	IMO Annex II Pollution Category
Acetone	III

TABLE 30.25–1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Acetophenone	@D
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol	D
Alcohols (C13+)	III
Alcoholic beverages, n.o.s.	III
Alcohol(C6–C17)(secondary) poly(3-6)ethoxylates	A
Alcohol(C6–C17)(secondary) poly(7-12)ethoxylates	B
Alcohol(C9–C11) poly(2.5-9)ethoxylate	B
Alcohol(C12–C15) poly(...)ethoxylates, see Alcohol(C12–C16) poly(...)ethoxylates .....	.....
Alcohol(C12–C16) poly(1-6)ethoxylates	A
Alcohol(C12–C16) poly(7-19)ethoxylates	B
Alcohol(C12–C16) poly(20+)ethoxylates	C
Alkanes (C6–C9)	C
n-Alkanes (C10+)	III
iso- & cyclo-Alkanes (C10–C11)	D
iso- & cyclo-Alkanes (C12+)	III
Alkaryl polyether (C9–C20)	B
Alkenyl(C11+) amine	D
Alkenyl(C16–C20) succinic anhydride)	D
Alkyl(C8+)amine, Alkenyl(C12+) acid ester mixture	D
Alkyl(C9+)benzenes	III
Alkylbenzenesulfonic acid (4% or less)	#
Alkyl dithiothiadiazole (C6–C24)	D
Alkyl ester copolymer (C4–C20)	D
Alkyl(C7–C11) phenol poly(4-12)ethoxylates	B
Alkyl phenol sulfide (C8–C40), see Alkyl(C8–C40) phenol sulfide .....	.....
Alkyl(C8–C40) phenol sulfide ...	D
Alkyl(C9–C15) phenyl propoxylate	III
n-Alkyl phthalates, see individual phthalates .....	.....
Alkyl sulfonic acid ester of phenol	III
Aminoethyldiethanolamine, Aminoethylethanolamine solution	III
Amyl acetate (all isomers)	C
Amyl alcohol (iso-, n-, sec-, primary)	D
Amyl alcohol (tert-)	III
Amylene, see Pentene (all isomers)	C
tert-Amyl methyl ether (Methyl tert-pentyl ether)	C
Amyl methyl ketone, see Methyl amyl ketone	D
Animal and Fish oils, n.o.s.	D

TABLE 30.25–1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
(see also Oil, edible, or Oil, misc.) Including: Cod liver oil Lanolin Neatsfoot oil Pilchard oil Sperm oil	
Animal and Fish acid oils and distillates, n.o.s.	D
Including: Animal acid oil Fish acid oil Lard acid oil Mixed acid oil Mixed general acid oil Mixed hard acid oil Mixed soft acid oil	
Aryl polyolefin (C11–C50)	D
Asphalt	I
Asphalt blending stocks: Roofers flux	I
Straight run residue	I
Barium long chain (C11–C50) alkaryl sulfonate	B
Barium long chain alkyl(C8–C14)phenate sulfide	[A]
Behenyl alcohol	III
Benzene tricarboxylic acid trioctyl ester	III
Benzyl alcohol	C
Brake fluid base mixtures	D
(containing Poly(2-8)alkylene(C2–C3) glycols, Polyalkylene(C2–C10) glycol monoalkyl(C1–C4) ethers, and their borate esters)	
Butane	LFG
Butene, see Butylene.	
Butene oligomer	B
Butyl acetate (all isomers)	C
Butyl alcohol (iso-, n-, sec-, tert-), see Butyl alcohol (all isomers) .....	.....
Butyl alcohol (all isomers)	III
Butyl benzyl phthalate	A
Butylene	LFG
Butylene glycol	D
1,3-Butylene glycol, see Butylene glycol .....	.....
Butylene polyglycol, see Butylene glycol .....	.....
iso-Butyl formate	D
n-Butyl formate	@D
Butyl heptyl ketone	[C]
Butyl methyl ketone, see Methyl butyl ketone .....	.....
n-Butyl propionate	C
Butyl stearate	III
Butyl toluene	@A
gamma-Butyrolactone	D
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture	A

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
<i>Calcium alkyl salicylate, see Calcium long chain alkyl salicylate (C13+)</i>	
Calcium long chain alkaryl sulfonate (C11–C50)	D
<i>Calcium long chain alkyl phenate (C8–C40), see Calcium long chain alkyl(C5–C10) phenate or Calcium long chain alkyl(C11–C40) phenate</i>	
Calcium long chain alkyl(C5–C10) phenate	C
Calcium long chain alkyl(C11–C40) phenate	D
Calcium long chain alkyl phenate sulfide (C8–C40)	D
Calcium long chain alkyl phenolic amine (C8–C40)	III
Calcium long chain alkyl salicylate (C13+)	C
Caprolactam solutions	D
<i>Cetyl alcohol (hexadecanol), see Alcohols (C13+)</i>	
Cetyl-Stearyl alcohol, <i>see Alcohols (C13+)</i>	III
† Coal tar	A
Copper salt of long chain (C17+) alkanolic acid	[D]
<i>Cumene (isopropylbenzene), see Propylbenzene (all isomers)</i>	
Cyclohexane	C
Cyclohexanol	D
1,3-Cyclopentadiene dimer (molten)	B
p-Cymene	C
Decahydronaphthalene	D
iso-Decaldehyde	@C
n-Decaldehyde	@B
<i>Decane, see n-Alkanes (C10+)</i>	
Decene	B
Decyl acetate	B
Decyl alcohol (all isomers)	B
n-Decylbenzene, <i>see Alkyl(C9+)benzenes</i>	III
Detergent alkylate	D
Diacetone alcohol	D
Dialkyl(C10–C14) benzenes, <i>see Alkyl(C9+)benzenes</i>	III
Dialkyl(C8–C9) diphenylamines	D
Dialkyl(C7–C13) phthalates <i>Including:</i> <i>Diisodecyl phthalate</i> <i>Diisononyl phthalate</i> <i>Dinonyl phthalate</i> <i>Ditridecyl phthalate</i> <i>Diundecyl phthalate</i> <i>Dibutyl carbinol, see Nonyl alcohol (all isomers)</i>	D
<i>ortho</i> -Dibutyl phthalate	A
Dicyclopentadiene, <i>see 1,3-Cyclopentadiene dimer (molten)</i>	
Diethylbenzene	A
Diethylene glycol	D

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
<i>Diethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
<i>Diethylene glycol butyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate</i>	
Diethylene glycol dibutyl ether	D
Diethylene glycol diethyl ether	III
<i>Diethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate</i>	
Diethylene glycol diethyl ether	D
<i>Diethylene glycol ethyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate</i>	
<i>Diethylene glycol n-hexyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
<i>Diethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
<i>Diethylene glycol methyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate</i>	
Diethylene glycol phenyl ether	#
Diethylene glycol phthalate	D
<i>Diethylene glycol propyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
Di-(2-ethylhexyl)adipate	D
<i>Di-(2-ethylhexyl)phthalate, see Dioctyl phthalates</i>	
Diethyl phthalate	C
Diglycidyl ether of Bisphenol A	B
Diheptyl phthalate	III
Dihexyl phthalate	III
Diisobutylcarbinol, <i>see Nonyl alcohol (all isomers)</i>	C
Diisobutylene	B
Diisobutyl ketone	D
Diisobutyl phthalate	B
<i>Diisodecyl phthalate, see Dialkyl(C7–C13) phthalates</i>	
<i>Diisononyl adipate, see Diisononyl phthalate, see Dialkyl(C7–C13) phthalates</i>	
Diisooctyl phthalate	III
Diisopropylbenzene (<i>all isomers</i>)	A
Diisopropyl naphthalene	D
Dimethyl adipate	B
<i>Dimethylbenzene, see Xylenes</i>	
Dimethyl glutarate	C
Dimethyl phthalate	C
Dimethylpolysiloxane, <i>see Polydimethylsiloxane</i>	III
2,2-Dimethylpropane-1,3-diol (molten or solution)	D
Dimethyl succinate	C
<i>Dinonyl phthalate, see Dialkyl(C7–C13) phthalates</i>	
Dioctyl phthalate	III

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Dipentene	C
Diphenyl	A
Diphenyl, Diphenyl ether mixture	A
Diphenyl ether	A
Diphenyl ether, Biphenyl phenyl ether mixture	A
Dipropylene glycol	III
<i>Dipropylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
Dipropylene glycol dibenzoate	[D]
<i>Dipropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
Distillates:	
Flashed feed stocks	I
Straight run	I
Ditridecyl adipate	III
<i>Ditridecyl phthalate, see Dialkyl(C7–C13) phthalates</i>	
<i>Diundecyl phthalate, see Dialkyl(C7–C13) phthalates</i>	
Dodecane (all isomers), <i>see also n-Alkanes (C10+)</i>	III
Dodecanol	B
Dodecene (all isomers)	B
Dodecyl alcohol, <i>see Dodecanol</i>	
Dodecylbenzene, <i>see Alkyl(C9+)benzenes</i>	III
Dodecyl hydroxypropyl sulfide	A
Dodecyl phenol	A
Dodecyl xylene	III
Drilling mud (low toxicity) (<i>if flammable or combustible</i>)	[III]
Ethane	LFG
2-Ethoxyethyl acetate	C
<i>Ethoxylated alkoxy alkyl amine, see Ethoxylated long chain (C16+) alkoxyalkanamine</i>	
Ethoxylated long chain (C16+) alkoxyalkanamine	D
Ethoxy triglycol (<i>crude</i>)	D
Ethyl acetate	D
Ethyl acetoacetate	D
Ethyl alcohol	III
Ethyl amyl ketone	C
Ethylbenzene	B
Ethyl butanol	@D
Ethyl tert-butyl ether	C
Ethyl butyrate	C
Ethyl cyclohexane	C
Ethylene	LFG
Ethylene carbonate	III
Ethylene glycol	D
Ethylene glycol acetate	D
Ethylene glycol butyl ether acetate	C
Ethylene glycol diacetate	C
Ethylene glycol dibutyl ether	[D]
<i>Ethylene glycol ethyl ether acetate, see 2-Ethoxyethyl acetate</i>	

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Ethylene glycol methyl butyl ether	D
Ethylene glycol methyl ether acetate	C
Ethylene glycol phenyl ether	D
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture	D
Ethylene-Propylene copolymer (in liquid mixtures)	[III]
Ethyl-3-ethoxypropionate	C
2-Ethylhexaldehyde, see Octyl aldehydes	
2-Ethylhexanoic acid, see Octanoic acid (all isomers) ...	
2-Ethylhexanol, see Octanol (all isomers)	
Ethylhexoic acid, see 2-Ethylhexanoic acid	
Ethyl hexyl phthalate	C
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol, C8–C10 ester	D
Ethyl propionate	D
Ethyl toluene	B
Fatty acid (saturated, C13+), see Fatty acid (saturated, C14+)	
Fatty acid (saturated, C14+)	III
Formamide	D
Furfuryl alcohol	C
† Gas oil, cracked	I
Gasoline blending stocks:	
Alkylates	I
† Reformates	I
Gasolines:	
† Automotive (containing not over 4.23 grams lead per gallon)	I
† Aviation (containing not over 4.86 grams lead per gallon)	I
Casinghead (natural)	I
Polymer	I
† Straight run	I
Glycerine	III
Glycerine (83%), Dioxane-dimethanol (17%) mixture	D
Glycerol, see Glycerine	
Glycerol monooleate	D
Glycerol polyalkoxylate	III
Glyceryl triacetate	III
Glycidyl ester of tertiary carboxylic acid, see Glycidyl ester of tridecyl acetic acid ...	
Glycidyl ester of C10 trialkylacetic acid, see Glycidyl ester of tridecyl acetic acid	
Glycidyl ester of tridecyl acetic acid	B
Glycidyl ester of tridecyl acetic acid	B
Glycidyl ester of versatic acid, see Glycidyl ester of tridecyl acetic acid	
Glycol diacetate, see Ethylene glycol diacetate	
Glycol triacetate, see Glyceryl triacetate	

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Glyoxal solution (40% or less)	D
Glyphosate solution (not containing surfactant)	D
Heptadecane, see n-Alkanes (C10+)	
Heptane (all isomers), see Alkanes (C6–C9)	C
Heptanoic acid	D
Heptanol (all isomers)	C
Heptene (all isomers)	C
Heptyl acetate	B
Herbicide (C15 -H22 -NO2 -Cl), see Metolachlor	
1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)naphthalene mixture	III
Hexaethylene glycol, see Polyethylene glycol	
Hexamethylene glycol	III
Hexamethylenetetramine solutions	D
Hexane (all isomers), see Alkanes (C6–C9)	C
Hexanoic acid	D
Hexanol	D
Hexene (all isomers)	C
Hexyl acetate	B
Hexylene glycol	III
Hog grease, see Lard	
2-Hydroxy-4-(methylthio)butanoic acid	C
Hydroxy terminated polybutadiene, see Polybutadiene, hydroxy terminated	
Isophorone	D
Jet fuels:	
† JP-4	I
JP-5 (kerosene, heavy)	I
JP-8	@I
Kerosene	I
Lactic acid	D
Lard	III
Latex (ammonia (1% or less) inhibited)	D
Latex, liquid synthetic including:	III
Styrene-butadiene rubber ..	III
Carboxylated styrene-butadiene copolymer	III
Lecithin	III
Long chain alkaryl polyether (C11–C20)	C
Long chain alkaryl sulfonic acid (C16–C60)	D
Long chain alkylphenate/Phenol sulfide mixture	III
Magnesium long chain alkaryl sulfonate (C11–C50)	D
Magnesium long chain alkyl phenate sulfide (C8–C20)	[D]
Magnesium long chain alkyl salicylate (C11+)	C
Magnesium nonyl phenol sulfide, see Magnesium long chain alkyl phenate sulfide (C8–C20)	

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Magnesium sulfonate, see Magnesium long chain alkaryl sulfonate (C11–C50)	
2-Mercaptobenzothiazol (in liquid mixtures)	#
Methane	LFG
3-Methoxy-1-butanol	III
3-Methoxybutyl acetate	D
1-Methoxy-2-propyl acetate	#
Methoxy triglycol (triethylene glycol methyl ether), see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	
Methyl acetate	III
Methyl acetoacetate	D
Methyl alcohol	D
Methyl amyl acetate	C
Methyl amyl alcohol	C
Methyl amyl ketone	D
Methyl butanol, see the amyl alcohols	
Methyl butenol	D
Methyl tert-butyl ether	D
Methyl butyl ketone	D
Methyl butyrate	C
Methyl ethyl ketone	III
N-Methylglucamine solution (70% or less)	III
Methyl heptyl ketone	B
Methyl isobutyl carbinol, see Methyl amyl alcohol	
Methyl isobutyl ketone	D
3-Methyl-3-methoxybutanol	III
3-Methyl-3-methoxybutyl acetate	III
Methyl naphthalene	A
Methyl pentene, see Hexene (all isomers)	
Methyl tert-pentyl ether (IMO cargo name) tert-Amyl methyl ether	
2-Methyl-1,3-propanediol	III
Methyl propyl ketone	D
N-Methyl-2-pyrrolidone	D
Metolachlor	B
Mineral spirits	I
Myrcene	D
Naphtha:	
† Aromatic (having less than 10% Benzene)	@I
Heavy	@I
Paraffinic	@I
† Petroleum	I
† Solvent	I
Stoddard Solvent	@I
† Varnish makers' and painters' (75%)	@I
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution	D
Naphthenic acid	A
Nonane (all isomers), see Alkanes (C6–C9)	C
Nonanoic acid (all isomers)	D
Nonanoic, Tridecanoic acid mixture	@D
Nonene (all isomers)	B

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Nonyl acetate	C
Nonyl alcohol (all isomers)	C
Nonyl methacrylate <i>monomer</i> ..	D
Nonyl phenol	A
Nonyl phenol poly(4+)ethoxylates	B
<i>Nonyl phenol sulfide (90% or less), see</i> Alkyl phenol sulfide (C8–C40)	
Noxious liquid, N.F., (1) n.o.s. ("trade name" contains "principle components") ST 1, Cat A (<i>if combustible</i>)	A
Noxious liquid, F., (2) n.o.s. ("trade name" contains "principle components") ST 1, Cat A	A
Noxious liquid, N.F., (3) n.o.s. ("trade name" contains "principle components") ST 2, Cat A (<i>if combustible</i>)	A
Noxious liquid, F., (4) n.o.s. ("trade name" contains "principle components") ST 2, Cat A	A
Noxious liquid, N.F., (5) n.o.s. ("trade name" contains "principle components") ST 2, Cat B (<i>if combustible</i>)	B
Noxious liquid, N.F., (6) n.o.s. ("trade name" contains "principle components") ST 2, Cat B, mp. equal to or greater than 15 deg. C (<i>if combustible</i>)	B
Noxious liquid, F., (7) n.o.s. ("trade name" contains "principle components") ST 2, Cat B	B
Noxious liquid, F., (8) n.o.s. ("trade name" contains "principle components") ST 2, Cat B, mp. equal to or greater than 15 deg. C	B
Noxious liquid, N.F., (9) n.o.s. ("trade name" contains "principle components") ST 3, Cat A (<i>if combustible</i>)	A
Noxious liquid, F., (10) n.o.s. ("trade name" contains "principle components") ST 3, Cat A	A
Noxious liquid, N.F., (11) n.o.s. ("trade name" contains "principle components") ST 3, Cat B (<i>if combustible</i>)	B
Noxious liquid, N.F., (12) n.o.s. ("trade name" contains "principle components") ST 3, Cat B, mp. equal to or greater than 15 deg. C (<i>if combustible</i>)	B
Noxious liquid, F., (13) n.o.s. ("trade name" contains "principle components") ST 3, Cat B	B

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Noxious liquid, F., (14) n.o.s. ("trade name" contains "principle components") ST 3, Cat B, mp. equal to or greater than 15 deg. C	B
Noxious liquid, N.F., (15) n.o.s. ("trade name" contains "principle components") ST 3, Cat C (<i>if combustible</i>)	C
Noxious liquid, F., (16) n.o.s. ("trade name" contains "principle components") ST 3, Cat C	C
Noxious liquid, n.o.s. (17) ("trade name," contains "principal components"), Category D (<i>if flammable or combustible</i>)	D
Non-noxious liquid, n.o.s. (18) ("trade name," contains "principal components"), Appendix III (<i>if flammable or combustible</i>)	III
<i>Octadecene, see the olefin or alpha-olefin entries</i>	
Octadecenoamide solution (<i>oleamide</i>)	[D]
Octane (all isomers), <i>see</i> Alkanes (C6–C9)	C
Octanoic acid (all isomers)	D
Octanol (all isomers)	C
Octene (all isomers)	B
Octyl acetate	C
<i>Octyl alcohol (iso-, n-), see</i> Octanol (all isomers)	
Octyl aldehydes	B
Octyl decyl adipate	III
<i>Octyl phthalate (Di-(2-ethylhexyl)phthalate), see</i> Dioctyl phthalates	
Oil, edible:	
Beechnut	D
Castor	D
Cocoa butter	D
Coconut	D
Cod liver	D
Corn	D
Cottonseed	D
Fish, <i>n.o.s.</i>	D
Groundnut	D
Hazelnut	D
Lard	@III
Maize, <i>see</i> Corn oil	D
Nutmeg butter	D
Olive	D
Palm	D
Palm kernel	D
Peanut	D
Poppy	D
Raisin seed	D
Rapeseed	D
Rice bran	D
Safflower	D
Salad	D
Sesame	D
Soya bean	D

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Sunflower, <i>see</i> Sunflower seed	D
Sunflower seed	D
Tucum	D
Vegetable, <i>n.o.s.</i>	D
Walnut	D
Oil, fuel:	
No. 1 (<i>kerosene</i>)	I
No. 1-D	I
No. 2	I
No. 2-D	I
No. 4	I
No. 5	I
No. 6	I
Oil, misc:	
Aliphatic	@I
Animal, <i>n.o.s.</i>	D
Aromatic	I
Clarified	I
Coal	#
Coconut oil, fatty acid	C
Coconut oil, fatty acid methyl ester	D
<i>Cottonseed, fatty acid, see</i> Cottonseed oil, fatty acid ..	
† Crude	I
Diesel	I
Gas, high pour	@I
Gas, low pour	@I
Gas, low sulfur	@I
Heartcut distillate	I
Lanolin	D
Linseed	D
Lubricating	I
Mineral	I
Mineral seal	@I
Motor	I
Neatsfoot	D
Oiticica	D
Palm oil, fatty acid methyl ester	D
Penetrating	I
Perilla	D
Pilchard	D
Pine	C
Residual	I
Road	I
Rosin	B
Seal	I
Soapstock	#
Soya bean (epoxidized)	[D]
Sperm	D
Spindle	I
Tall	B
Tall, fatty acid	C
Transformer	I
Tung	D
Turbine	I
Whale	D
alpha-Olefins (C6–C18)	B
alpha-Olefins (C13–C18)	III
Olefin mixtures (C5–C7)	C
Olefin mixtures (C5–C15)	B
Olefins (C13+, all isomers)	III
Olefin/Alkyl ester copolymer (molecular weight 2000+)	D
Oleic acid	D

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
<i>Oleyl alcohol (octadecanol), see Alcohols (C13+)</i>	
Palm kernel acid oil, methyl ester	[D]
Palm stearin	D
<i>n-Paraffins (C10–C20), see n-Alkanes (C10+)</i>	
<i>Pentadecanol, see Alcohols (C13+)</i>	
<i>Pentaethylene glycol, see Polyethylene glycols</i>	
Pentaethylenhexamine	D
Pentane (all isomers)	C
Pentanoic acid	D
Pentene (all isomers)	C
n-Pentyl propionate	C
Petrolatum	III
1-Phenyl-1-xylyl ethane	C
Phosphate esters, alkyl(C12–C14) amine	B
Phosphosulfurized bicyclic terpene	#
<i>Pinene, see the alpha- or beta-isomers</i>	
alpha-Pinene	A
beta-Pinene	B
Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures	@D
<i>Polyalkylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
<i>Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	D
Including: <i>Diethylene glycol butyl ether</i> <i>Diethylene glycol ethyl ether</i> <i>Diethylene glycol n-hexyl ether</i> <i>Diethylene glycol methyl ether</i> <i>Diethylene glycol n-propyl ether</i> <i>Dipropylene glycol butyl ether</i> <i>Dipropylene glycol methyl ether</i> <i>Polypropylene glycol methyl ether</i> <i>Triethylene glycol butyl ether</i> <i>Triethylene glycol ethyl ether</i> <i>Triethylene glycol methyl ether</i> <i>Tripropylene glycol methyl ether</i>	
<i>Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate</i>	D
Including: <i>Diethylene glycol butyl ether acetate</i> <i>Diethylene glycol ethyl ether acetate</i> <i>Diethylene glycol methyl ether acetate</i>	
Polyalkylene oxide polyol	C
Polycarboxylic ester (C9+), <i>see</i> Ditridecyl adipate.	

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Polyalkyl(C10–C20) methacrylate	D
Polybutadiene, hydroxy terminated	[III]
Polybutene	III
Polybutenyl succinimide	D
Polydimethylsiloxane	#
Polyether (molecular weight 2000+)	D
Polyethylene glycol	III
Polyethylene glycol dimethyl ether	III
<i>Polyethylene glycol monoalkyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
Polyglycerine, Sodium salts solution (containing less than 3% Sodium hydroxide)	III
Polyglycerol	III
Polyisobutenyl anhydride	III
Poly(4+)isobutylene	III
Polymerized esters	#
Polyolefin (molecular weight 300+)	III
Polyolefin amide alkeneamine (C17+)	D
Polyolefin amide alkeneamine (C28+)	D
Polyolefin amide alkeneamine borate (C28–C250)	D
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture	C
Polyolefin amide alkeneamine polyol	D
Polyolefin anhydride	D
Polyolefin ester (C28–C250)	D
Polyolefin phenolic amine (C28–C250)	D
Polyolefin phosphorsulfide, barium derivative (C28–C250)	C
Poly(20)oxyethylene sorbitan monooleate	III
Poly(5+)propylene	III
Polypropylene glycol	D
<i>Polypropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether</i>	
Polsiloxane	III
Potassium oleate	C
Potassium salt of polyolefin acid	
Propane	LFG
<i>n-Propoxypropanol (propylene glycol propyl ether), see Propylene glycol monoalkyl ether</i>	
iso-Propyl acetate	III
n-Propyl acetate	D
iso-Propyl alcohol	III
n-Propyl alcohol	III
<i>iso-Propylbenzene (cumene), see Propylbenzene (all isomers)</i>	

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
<i>n-Propylbenzene, see Propylbenzene (all isomers)</i>	
Propylbenzene (all isomers)	A
iso-Propylcyclohexane	C
Propylene	LFG
Propylene-butylene copolymer	III
Propylene carbonate	III
Propylene dimer	C
Propylene glycol	III
<i>Propylene glycol n-butyl ether, see Propylene glycol monoalkyl ether</i>	
<i>Propylene glycol ethyl ether, see Propylene glycol monoalkyl ether</i>	
<i>Propylene glycol methyl ether, see Propylene glycol monoalkyl ether</i>	
Propylene glycol methyl ether acetate	D
Propylene glycol monoalkyl ether	D
Including: <i>n-Propoxypropanol</i> <i>Propylene glycol n-butyl ether</i> <i>Propylene glycol ethyl ether</i> <i>Propylene glycol methyl ether</i> <i>Propylene glycol propyl ether</i>	
Propylene glycol phenyl ether ..	D
<i>Propylene glycol propyl ether, see Propylene glycol monoalkyl ether</i>	
Propylene polymer (<i>in liquid mixtures</i>)	#
Propylene tetramer	B
Propylene trimer	B
<i>Pseudocumene, see Trimethylbenzenes</i>	
<i>Rum, see Alcoholic beverages, n.o.s.</i>	
Sodium acetate, Glycol, Water mixture (containing 1% or less, Sodium hydroxide) (<i>if flammable or combustible</i>)	#
Sodium acetate solution	D
Sodium benzoate solution	D
Sodium long chain alkyl salicylate (C13+)	[C]
Soyabean oil (epoxidized)	[D]
<i>Stearic acid, see Fatty acid (saturated, C14+)</i>	
Stearyl alcohol (<i>octadecanol</i>) ...	III
Sulfohydrocarbon (C3–C88)	D
Sulfohydrocarbon, long chain (C18+) alkylamine	B
Sulfolane	D
Sulfurized fat (C14–C20)	D
Sulfurized polyolefinamide alkene(C28–C250)amine	D
Tallow	D
<i>Tallow alcohol, see Alcohols (C13+)</i>	
Tallow fatty acid	D

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Tallow <i>alkyl</i> nitrile	#
<i>Tetradecanol</i> , see Alcohols (C13+)	
<i>Tetradecene</i> , see the olefin or alpha-olefin entries	
Tetradecylbenzene, see Alkyl(C9+)benzenes	III
Tetraethylene glycol	III
Tetrahydronaphthalene	C
<i>Tetrapropylbenzene</i> , see Alkyl(C9+)benzenes	
Toluene	C
<i>Triarylphosphate</i> , see Triisopropylated phenyl phosphates	
Tributyl phosphate	B
Tricresyl phosphate (less than 1% of the ortho isomer)	A
<i>Tridecane</i> , see n-Alkanes (C10+)	
Tridecanoic acid	B
<i>Tridecanol</i> , see Alcohols (C13+)	
<i>Tridecene</i> , see Olefins (C13+)	
Tridecyl acetate	III
Tridecylbenzene, see Alkyl(C9+)benzenes	III
Triethylbenzene	A
Triethylene glycol	III
<i>Triethylene glycol butyl ether</i> , see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	
Triethylene glycol butyl ether mixture	#
Triethylene glycol di-(2-ethylbutyrate)	[C]
Triethylene glycol ether mixture	#
<i>Triethylene glycol ethyl ether</i> , see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	
<i>Triethylene glycol methyl ether</i> , see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	
Triethyl phosphate	D
Triisooctyl trimellitate	#
Triisopropanolamine	III
Triisopropylated phenyl phosphates	A
Trimethylbenzene (all isomers)	A
Trimethylol propane polyethoxylate	D
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	III
2,2,4-Trimethyl-3-pentanol-1-isobutyrate	#
<i>Tripropylene</i> , see Propylene trimer	
Tripropylene glycol	III
<i>Tripropylene glycol methyl ether</i> , see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	
Trixylenyl phosphate	A

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
Trixylyl phosphate, see Trixylenyl phosphate	A
Turpentine	B
†Turpentine substitute, see White spirit (low (15–20%) aromatic)	
<i>Undecanol</i> , see 1- Undecyl alcohol	
Undecene	B
1- Undecyl alcohol	B
Undecylbenzene, see Alkyl(C9+)benzenes	III
Vegetable oils, n.o.s. (see also Oil, edible)	D
Including:	
<i>Beechnut oil</i>	
<i>Castor oil</i>	
<i>Cocoa butter</i>	
<i>Coconut oil</i>	
<i>Corn oil</i>	
<i>Cottonseed oil</i>	
<i>Groundnut oil</i>	
<i>Hazelnut oil</i>	
<i>Linseed oil</i>	
<i>Nutmeg butter</i>	
<i>Oiticica oil</i>	
<i>Olive oil</i>	
<i>Palm kernel oil</i>	
<i>Palm oil</i>	
<i>Peel oil (oranges and lemons)</i>	
<i>Perilla oil</i>	
<i>Poppy oil</i>	
<i>Raisin seed oil</i>	
<i>Rapeseed oil</i>	
<i>Rice bran oil</i>	
<i>Safflower oil</i>	
<i>Salad oil</i>	
<i>Sesame oil</i>	
<i>Soya bean oil</i>	
<i>Sunflower seed oil</i>	
<i>Tucum oil</i>	
<i>Tung oil</i>	
<i>Walnut oil</i>	
Vegetable acid oils and distillates, n.o.s.	D
Including:	
<i>Corn acid oil</i>	
<i>Cottonseed acid oil</i>	
<i>Dark mixed acid oil</i>	
<i>Groundnut acid oil</i>	
<i>Mixed acid oil</i>	
<i>Mixed general acid oil</i>	
<i>Mixed hard acid oil</i>	
<i>Mixed soft acid oil</i>	
<i>Rapeseed acid oil</i>	
<i>Safflower acid oil</i>	
<i>Soya acid oil</i>	
<i>Sunflower seed acid oil</i>	
Waxes:	
<i>Candelilla</i>	D
<i>Carnauba</i>	@D
<i>Paraffin</i>	@D
†White spirit, see White spirit (low (15–20%) aromatic)	III

TABLE 30.25-1.—LIST OF FLAMMABLE AND COMBUSTIBLE BULK LIQUID CARGOES—Continued

Cargo name	IMO Annex II Pollution Category
†White spirit (low (15–20%) aromatic)	B
<i>Wine</i> , see Alcoholic beverages, n.o.s.	
Xylenes (<i>ortho</i> -, <i>meta</i> -, <i>para</i> -) ..	C
Zinc alkaryl dithiophosphate (C7–C16)	C
Zinc alkenyl carboxamide	D
Zinc alkyl dithiophosphate (C3–C14)	B

NOTE: See table 2 of part 153 for additional cargoes permitted to be carried by tank barge.

Explanation of Symbols: As used in this table the following stands for:

A, B, C, D—NLS Category of Annex II of MARPOL 73/78.

I—Considered an “oil” under Annex I of MARPOL 73/78.

III—Appendix III of Annex II (non-NLS cargoes) of MARPOL 73/78.

LFG—Liquefied flammable gas.

#—No determination of NLS status. For shipping on an oceangoing vessel, see 46 CFR 153.900(c).

[]—A NLS category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of its pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.

@—The NLS category has been assigned by the U.S. Coast Guard, in absence of one assigned by the IMO. The category is based upon a GESAMP Hazard Profile or by analogy to a closely related product having an NLS assigned.

†—The provisions contained in 46 CFR part 197, subpart C, may apply to this cargo.

Abbreviations for Noxious liquid Cargoes:

N.F.—non-flammable (flash point greater than 60 degrees C (140 degrees F) cc).

F.—flammable (flash point less than or equal to 60 degrees C (140 degrees F) cc).

n.o.s.—not otherwise specified.

ST—Ship type.

Cat—Pollution category.

Words in italic are not part of the cargo name but may be used in addition to the cargo name.

When one entry references another entry by use of the word “see”, and both names are in roman type, either name may be used as the cargo name (e.g., Diethyl ether, see Ethyl ether). However, the referenced entry is preferred.

PART 150—COMPATIBILITY OF CARGOES

7. The citation of authority for part 150 continues to read as follows:

Authority: 46 U.S.C. 3306, 3703; 49 CFR 1.45, 1.46. Section 150.105 issued under 44 U.S.C. 3507; 49 CFR 1.45.

8. Revise Table I to read as follows:

TABLE I.—ALPHABETICAL LIST OF CARGOES

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Acetaldehyde	19	.....	AAD	
Acetic acid	4	2	AAC	
Acetic anhydride	11	.....	ACA	
Acetochlor	10	.....	ACG	
Acetone	18	2	ACT	
Acetone cyanohydrin	0	1, 2	ACY	
Acetonitrile	37	.....	ATN	
Acetophenone	18	.....	ACP	
Acrolein	19	2	ARL	
Acrylamide solution	10	.....	AAM	
Acrylic acid	4	2	ACR	
Acrylonitrile	15	2	ACN	
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol	20	.....	ALE	
Adiponitrile	37	.....	ADN	
Alachlor	33	.....	ALH	
Alcohols (C13+)	20	.....	ALY	
Including:				
Oleyl alcohol (octadecanol)				
Pentadecanol				
Tallow alcohol				
Tetradecanol				
Tridecanol				
Alcoholic beverages	20	.....		
Alcohol polyethoxylates	20	.....		APU/APV/APW/ AET AEA/AEB
Alcohol polyethoxylates, secondary	20	.....		
Alkanes (C6-C9)	31	1	ALK	
Including:				
Heptanes				
Hexanes				
Nonanes				
Octanes				
n-Alkanes (C10+)	31	1	ALJ	
Including:				
Decanes				
Dodecanes				
Heptadecanes				
Tridecanes				
Undecanes				
iso- & cyclo-Alkanes (C10-C11)	31	1	AKI	
iso- & cyclo-Alkanes (C12+)	31	1	AKJ	
Alkane (C14-C17) sulfonic acid, sodium salt solution	34	.....	AKA	
Alkaryl polyether (C9-C20)	41	.....	AKP	
Alkenyl(C11+)amide	11	.....	AKM	
Alkenyl(C16-C20)succinic anhydride	11	.....	AAH	
Alkyl acrylate-Vinyl pyridine copolymer in Toluene	32	2	AAP	
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	34	.....	AAA	
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer).	34	.....	APD	
Alkyl(C3-C4)benzenes	32	2	AKC	
Including:				
Butylbenzenes				
Cumene				
Propylbenzenes				
Alkyl(C5-C8)benzenes	32	2	AKD	
Including:				
Amylbenzenes				
Heptylbenzenes				
Hexylbenzenes				
Octylbenzenes				
Alkyl(C9+)benzenes	32	2	AKB	
Including:				
Decylbenzenes				
Dodecylbenzenes				
Nonylbenzenes				
Tetradecylbenzenes				
Tetrapropylbenzenes				
Tridecylbenzenes				
Undecylbenzenes				
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12-C17)	32	2	AIH	
Alkylbenzenesulfonic acid	0	1, 2		ABS/ABN

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Alkylbenzenesulfonic acid, sodium salt solutions	33		ABT	ONE
Alkyl dithiothiadiazole (C6-C24)	33	.....	ADT	
Alkyl ester copolymer (C4-C20)	34	.....	AES	
Alkyl(C7-C9) nitrates	34	2	AKN	
Alkyl(C7-C11) phenol poly(4-12)ethoxylate	40	.....	APN	
Alkyl(C8-C40) phenol sulfide	34	.....	AKS	
Alkyl(C8-C9) phenylamine in aromatic solvents	9	.....	ALP	
Alkyl(C9-C15) phenyl propoxylate	40			AGL/AGN/AGO/ AGP/AGM
Alkyl phthalates	34	.....	.....	
Alkyl(C10-C20, saturated and unsaturated) phosphite	34	.....	AKL	
Alkyl polyglucoside solutions	43	.....	.....	
Alkyl sulfonic acid ester of phenol	34			ALM
Allyl alcohol	15	2	ALA	
Allyl chloride	15	1	ALC	
Aluminium chloride, Hydrochloric acid solution	0	1	AHS	
Aluminum sulfate solution	43	2	ASX	APR
2-(2-Aminoethoxy)ethanol	8	.....	AEX	
Aminoethyldiethanolamine, Aminoethylethanolamine solution	8	.....	.....	
Aminoethylethanolamine	8	.....	AEE	
N-Aminoethylpiperazine	7		AEP	AMH
2-Amino-2-hydroxymethyl-1,3-propanediol solution	43	.....	AHL	
2-Amino-2-methyl-1-propanol	8	.....	APQ	
Ammonia, anhydrous	6	.....	AMA	
Ammonia, aqueous (28% or less Ammonia) (<i>IMO cargo name</i>), see Ammonium hydroxide	6			ASU
Ammonium bisulfite solution	43	2	ABX	
Ammonium hydrogen phosphate solution	0	1	AMI	AND/AMN
Ammonium hydroxide (28% or less Ammonia)	6	.....	AMH	
Ammonium lignosulfonate solution, see also Lignin liquor	43	.....	.....	
Ammonium nitrate solution	0	1	ANR	
Ammonium nitrate, Urea solution (containing Ammonia)	6		UAS	UAT
Ammonium nitrate, Urea solution (not containing Ammonia)	43	.....	ANU	
Ammonium polyphosphate solution	43	.....	AMO	
Ammonium sulfate solution	43	.....	AME	
Ammonium sulfide solution	5		ASS	ATF
Ammonium thiocyanate, Ammonium thiosulfate solution	0	1	ACS	
Ammonium thiosulfate solution	43	.....	ATV	
Amyl acetate	34	.....	AEC	
Amyl alcohol	20		AAI	PTX
Amylene, see Pentene .....	.....	.....	AMZ	
tert-Amyl methyl ether (see also, Methyl tert-pentyl ether)	41	.....	AYE	
Amyl methyl ketone, see Methyl amyl ketone .....	.....	.....	AMK	
Aniline	9		ANL	MAK
Animal and Fish oils, n.o.s.	34	.....	AFN	
Including:				
Cod liver oil				
Lanolin				
Neatsfoot oil				
Pilchard oil				
Sperm oil				
Animal and Fish acid oils and distillates, n.o.s.	34		AFA	COR
Including:				
Animal acid oil				
Fish acid oil				
Lard acid oil				ACU
Mixed acid oil			ARF	
Mixed general acid oil			ASR	
Mixed hard acid oil			ASQ	
Mixed soft acid oil			AVA	GAV
Anthracene oil (Coal tar fraction), see Coal tar	33	.....	AHO	
Apple juice	43	.....	.....	
Aryl polyolefin (C11-C50)	30	.....	AYF	
Asphalt	33		ASP	GAV
Asphalt blending stocks, roofers flux	33	.....	ARF	
Asphalt blending stocks, straight run residue	33	.....	ASR	
Asphalt emulsion (<i>ORIMULSION</i>)	33	.....	ASQ	
Aviation alkylates	33		AVA	BCA
Barium long chain alkaryl(C11-C50) sulfonate	34	.....	BCA	
Barium long chain alkyl(C8-C14)phenate sulfide	34	.....	BCH	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Behenyl alcohol	20	.....		
Benzene	32	2	BNZ	BHA
Benzene hydrocarbon mixtures (having 10% Benzene or more)	32	2	BHB	
Benzenesulfonyl chloride	0	1, 2	BSC	
Benzene, Toluene, Xylene mixtures	32	2	BTX	
Benzene tricarboxylic acid, trioctyl ester	34	.....		
Benzylacetate	34	.....	BZE	
Benzyl alcohol	21	.....	BAL	
Benzyl chloride	36	.....	BCL	
Brake fluid base mixtures	20	.....	BFX	
Bromochloromethane	36	.....	BCM	
Butadiene	30	.....	BDI	
Butadiene, Butylene mixtures (cont. Acetylenes)	30	.....	BBM	
Butane	31	1	BMX	IBT/BUT BUG
1,4-Butanediol, <i>see</i> Butylene glycol .....	.....	.....	BDO	
2-Butanone, <i>see</i> Methyl ethyl ketone .....	.....	.....		
Butene, <i>see</i> Butylene .....	.....	.....		IBL/BTN
Butene oligomer	30	.....	BOL	
Butyl acetate	34	.....	BAX	IBA/BCN/BTA/ BYA
Butyl acrylate	14	1	BAR	
Butyl alcohol	20	2	BAY	BAI/BTC IAL/BAN/BAS/ BAT
Butylamine	7	.....	BTY	
Butylbenzene, <i>see</i> Alky(C3-C4)benzenes	32	2	BBE	IAM/BAM/BTL/ BUA
Butyl benzyl phthalate	34	.....	BPH	
Butyl butyrate	34	.....	BBA	AKC
Butylene	30	.....	BTN	
Butylene glycol	20	2	BUG	BUB/BIB IBL BDO BUG
1,3-Butylene glycol, <i>see</i> Butylene glycol .....	.....	.....		
Butylene oxide	16	1	BTO	
Butyl ether	41	.....	BTE	
Butyl formate	34	.....		BFI/BFN
Butyl heptyl ketone	18	.....	BHK	
Butyl methacrylate	14	1	BMH	BMI/BMN
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture	14	1	DER	
Butyl methyl ketone, <i>see</i> Methyl butyl ketone .....	.....	.....		MBK
Butyl phenol, Formaldehyde resin in Xylene	32	2		
n-Butyl propionate	34	.....	BPN	
Butyl stearate	34	.....		
Butyl toluene	32	2	BUE	
Butyraldehyde	19	.....	BAE	BAD/BTR IBR
Butyric acid	4	.....	BRA	
gamma-Butyrolactone	0	1, 2	BLA	
C9 Resinfeed (DSM)	32	2	CNR	
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture	34	.....	CPX	
Calcium alkyl salicylate, <i>see</i> Calcium long chain alkyl salicylate (C13+) .....	.....	.....		CAK
Calcium bromide solution, <i>see</i> Drilling brines .....	.....	.....		DRB
Calcium bromide, Zinc bromide solution, <i>see</i> Drilling brine (containing Zinc salts) .....	.....	.....		DZB
Calcium carbonate slurry	34	.....		
Calcium chloride solution	43	.....	CCS	CLC
Calcium hydroxide slurry	5	.....	COH	
Calcium hypochlorite solutions	5	.....		CHZ/CHU/CHY
Calcium lignosulfonate solution, <i>see also</i> Lignin liquor	43	.....		
Calcium long chain alkaryl sulfonate (C11-C50)	34	.....	CAY	
Calcium long chain alkyl phenates	34	.....		CAN/CAW
Calcium long chain alkyl phenate sulfide (C8-C40)	34	.....	CPI	
Calcium long chain alkyl salicylate (C13+)	34	.....	CAK	
Calcium long chain alkyl phenolic amine (C8-C40)	9	.....	CPQ	
Calcium nitrate solution	34	.....	CNU	
Calcium nitrate, Magnesium nitrate, Potassium chloride solution	34	.....		
Calcium sulfonate, Calcium carbonate, Hydrocarbon solvent mixture	33	.....		
Camphor oil	18	.....	CPO	
Canola oil, <i>see rapeseed oil under "oils, edible."</i> .....	.....	.....		
Caprolactam solution	22	.....	CLS	
Caramel solutions	43	.....		
Carbolic oil	21	.....	CBO	
Carbon disulfide	38	.....	CBB	
Carbon tetrachloride	36	2	CBT	
Cashew nut shell oil (untreated)	4	.....	OCN	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Catoxid feedstock	36	2	CXF	
Caustic potash solution	5	2	CPS	
Caustic soda solution	5	2	CSS	
<i>Cetyl alcohol (hexadecanol), see Alcohols (C13+)</i>				ALY
Cetyl-Eicosyl methacrylate mixture	14	1	CEM	
Cetyl-Stearyl alcohol, <i>see Alcohols (C13+)</i>				ALY
Chlorinated paraffins (C10-C13)	36		CLH	
Chlorinated paraffins (C14-C17) (with 52% Chlorine)	36		CLJ	
Chlorine	0	1	CLX	
Chloroacetic acid solution	4		CHM	CHL/MCA
Chlorobenzene	36		CRB	
Chlorodifluoromethane (<i>monochlorodifluoromethane</i>)	36		MCF	
Chloroform	36		CRF	
Chlorohydrins	17	1	CHD	
4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution	9		CDM	
Chloronitrobenzene	42		CNO	
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one	18	2	CDP	
Chloropropionic acid	4		CPM	CLA/CLP
Chlorosulfonic acid	0	1	CSA	
Chlorotoluene	36		CHI	CTM/CTO/CRN
Choline chloride solutions	20		CCO	
Citric acid	4		CIS	CIT
Clay slurry, <i>see also</i> Kaolin clay slurry	43			
Coal tar	33		COR	OCT
Coal tar distillate	33		CDL	
Coal tar, high temperature	33		CHH	
Coal tar pitch	33		CTP	
Cobalt naphthenate in solvent naphtha	34		CNS	
Coconut oil, fatty acid	34		CFA	
Copper salt of long chain (C17+) alkanolic acid	34		CUS	CFT
Corn syrup	43		CSY	
Cottonseed oil, fatty acid	34		CFY	
Creosote	21	2	CCT	CCW/CWD
Cresols	21		CRS	CRL/CSL/CSO
Cresylate spent caustic	5		CSC	
Cresylic acid	21		CRY	
Cresylic acid, dephenolized	21		CAD	
Cresylic acid, sodium salt solution (<i>IMO cargo name</i>), <i>see</i> Cresylate spent caustic	5			CSC
Cresylic acid tar	21		CRX	
Crotonaldehyde	19	2	CTA	
<i>Cumene (isopropyl benzene), see Propylbenzene</i>			CUM	PBY
1,5,9-Cyclododecatriene	30		CYT	
Cycloheptane	31	1	CYE	
Cyclohexane	31	1	CHX	
Cyclohexanol	20		CHN	
Cyclohexanone	18		CCH	
Cyclohexanone, Cyclohexanol mixtures	18	2	CYX	
Cyclohexyl acetate	34		CYC	
Cyclohexylamine	7		CHA	
1,3-Cyclopentadiene dimer	30		CPD	DPT
Cyclopentadiene, Styrene, Benzene mixture	30		CSB	
Cyclopentane	31	1	CYP	
Cyclopentene	30		CPE	
Cymene	32	2	CMP	
Decahydronaphthalene	33		DHN	
Decaldehyde	19			IDA/DAL
<i>Decane, see n-Alkanes (C10+)</i>			DCC	ALJ
Decanoic acid	4		DCO	
Decene	30		DCE	
Decyl acetate	34		DYA	
Decyl acrylate	14	1	DAT	IAI/DAR
Decyl alcohol	20	2	DAX	ISA/DAN
Decylbenzene, <i>see Alkyl(C9+) benzenes</i>	32	2	DBZ	AKB
Decyloxytetrahydro-thiophene dioxide	0	1, 2	DHT	
Degummed C9 (DOW)	33		DGC	
Dextrose solution, <i>see</i> Glucose solution	43		DTS	GLU
Diacetone alcohol	20	2	DAA	
Dialkyl(C10-C14) benzenes, <i>see Alkyl(C9+) benzenes</i>	32	2	DAB	AKB
Dialkyl(C8-C9) diphenylamines	9		DAQ	
Dialkyl(C7-C13) phthalates	34		DAH	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
<i>Including:</i>				
<i>Diisodecyl phthalate</i>				
<i>Diisononyl phthalate</i>				
<i>Dinonyl phthalate</i>				
<i>Ditridecyl phthalate</i>				
<i>Diundecyl phthalate</i>				
Dibromomethane	36		DBH	
Dibutylamine	7		DBA	
<i>Dibutyl carbinol, see</i> Nonyl alcohol				NNS
Dibutyl hydrogen phosphonate	34		DHD	
Dibutylphenols	21			DBT/DBV, DBW
Dibutyl phthalate	34		DPA	
Dichlorobenzene	36		DBX	DBM/DBO/DBP
3,4-Dichloro-1-butene	36		DCD	DCB
Dichlorodifluoromethane	36		DCF	
1,1-Dichloroethane	36		DCH	
2,2'-Dichloroethyl ether	41		DEE	
1,6-Dichlorohexane	36		DXH	
2,2'-Dichloroisopropyl ether	36		DCI	
Dichloromethane	36	2	DCM	
2,4-Dichlorophenol	21		DCP	
2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution	43		DDE	
2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution	0	1, 2	DAD	DDA/DSX
2,4-Dichlorophenoxyacetic acid, Triisopropano-lamine salt solution	43	2	DTI	
Dichloropropane	36		DPX	DPB/DPP/DPC/ DPL DPU/DPF
1,3-Dichloropropene	15	1	DPS	
Dichloropropene, Dichloropropane mixtures	15	1	DMX	
2,2-Dichloropropionic acid	4		DCN	
Dicyclopentadiene, <i>see also</i> 1,3-Cyclopentadiene dimer	30		DPT	CPD
Diethanolamine	8		DEA	
<i>Diethanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see</i> 2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution.				DDE
Diethylamine	7		DEN	
Diethylaminoethanol (<i>IMO cargo name</i>), <i>see</i> Diethylethanolamine	8			DAE
2,6-Diethylaniline	9		DMN	
Diethylbenzene	32	2	DEB	
Diethylene glycol	40	2	DEG	
<i>Diethylene glycol butyl ether, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DME	PAG
<i>Diethylene glycol butyl ether acetate, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate.			DEM	PAF
Diethylene glycol dibenzoate	34		DGZ	
Diethylene glycol dibutyl ether	40		DIG	
Diethylene glycol diethyl ether	40			
<i>Diethylene glycol ethyl ether, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DGE	PAG
<i>Diethylene glycol ethyl ether acetate, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetates.			DGA	PAF
<i>Diethylene glycol n-hexyl ether, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DHE	PAG
<i>Diethylene glycol methyl ether, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DGM	PAG
<i>Diethylene glycol methyl ether acetate, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate.			DGR	PAF
Diethylene glycol phenyl ether	40		DGP	
Diethylene glycol phthalate	34		DGL	
<i>Diethylene glycol propyl ether, see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DGO	PAG
Diethylenetriamine	7	2	DET	
Diethylenetriamine pentaacetic acid, pentasodium salt solution	43			
Diethylethanolamine	8		DAE	
Diethyl ether (<i>IMO cargo name</i>), <i>see</i> Ethyl ether	41			EET DAX
<i>Diethyl hexanol, see</i> Decyl alcohol				
Di-(2-ethylhexyl)adipate	34		DEH	
Di-(2-ethylhexyl)phosphoric acid	1	1	DEP	
<i>Di-(2-ethylhexyl)phthalate, see</i> Dioctyl phthalate	34		DIE	DOP
Diethyl phthalate	34		DPH	
Diethyl sulfate	34		DSU	
Diglycidyl ether of Bisphenol A	41		BDE	BPA
Diglycidyl ether of Bisphenol F	41		DGF	
Diheptyl phthalate	34		DHP	
Di-n-hexyl adipate	34		DHA	
Dihexyl phthalate	34			
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	5		DDH	
Diisobutylamine	7		DBU	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Diisobutyl carbinol (<i>commercial cargo name</i>), <i>see</i> Nonyl alcohol	20		DBC	NNS
Diisobutylene	30		DBL	
Diisobutyl ketone	18		DIK	
Diisobutyl phthalate	34		DIT	
<i>Diisodecyl phthalate</i> , <i>see</i> Dialkyl(C7-C13) phthalates			DID	DAH
Diisononyl adipate	34		DNY	
<i>Diisononyl phthalate</i> , <i>see</i> Dialkyl(C7-C13) phthalates			DIN	DAH
Diisooctyl phthalate	34		DIO	
Diisopropanolamine	8		DIP	
Diisopropylamine	7		DIA	
Diisopropylbenzene	32	2	DIX	
Diisopropyl naphthalene	32	2	DII	
N,N-Dimethylacetamide	10		DAC	
N,N-Dimethylacetamide solution	10		DLS	
Dimethyl adipate	34		DLA	
Dimethylamine	7		DMA	
Dimethylamine solution	7			DMG/DMY/DMC
<i>Dimethylamine salt of 4-Chloro-2-methylphenoxyacetic acid solution</i> , <i>see</i> 4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution.				CDM
<i>Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid solution</i> , <i>see</i> 2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution.				DAD/(DDA/DSX)
2,6-Dimethylaniline	9		DMM	
<i>Dimethylbenzene</i> , <i>see</i> Xylenes				XLX
Dimethylcyclosiloxane hydrolyzate	34			
N,N-Dimethylcyclohexylamine	7		DXN	
N,N-Dimethyldodecylamine (<i>IMO cargo name</i>), <i>see</i> Dodecyldimethylamine	7		DDY	
Dimethylethanolamine	8		DMB	
Dimethylformamide	10		DMF	
Dimethyl furan	41			
Dimethyl glutarate	34		DGT	
Dimethyl hydrogen phosphite	34	2	DPI	
Dimethyl naphthalene sulfonic acid, sodium salt solution	34	2	DNS	
Dimethyloctanoic acid	4		DMO	
Dimethyl phthalate	34		DTL	
Dimethylpolysiloxane, <i>see</i> Polydimethylsiloxane	34		DMP	
2,2-Dimethylpropane-1,3-diol	20		DDI	
Dimethyl succinate	34		DSE	
Dinitrotoluene	42		DNM	DTT/DNL/DNU
<i>Dinonyl phthalate</i> , <i>see</i> Dialkyl(C7-C13) phthalates			DIF	DAH
Diocetyl phthalate	34		DOP	DIE
1,4-Dioxane	41		DOX	
Dipentene	30		DPN	
Diphenyl	32	2	DIL	
Diphenylamine (molten)	9		DAG	DAM/LRM
Diphenylamines, alkylated	7		DAJ	
Diphenylamine, reaction product with 2,2,4-trimethylpentene	7		DAK	
Diphenyl, Diphenyl ether mixture	33		DDO	DTH
Diphenyl ether	41		DPE	
Diphenyl ether, Diphenyl phenyl ether mixture	41		DOB	
Diphenylmethane diisocyanate	12		DPM	
Diphenylol propane-Epichlorohydrin resins	0	1	DPR	
<i>Diphenyl oxide</i> , <i>see</i> as diphenyl ether				
Di-n-propylamine	7		DNA	
Dipropylene glycol	40		DPG	
<i>Dipropylene glycol butyl ether</i> , <i>see</i> Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			DBG	PAG
Dipropylene glycol dibenzoate	34		DGY	
<i>Dipropylene glycol methyl ether</i> , <i>see</i> Poly (2-8)alkylene glycol monoalkyl(C1-C6) ether			DPY	PAG
Distillates, flashed feed stocks	33		DDF	
Distillates, straight run	33		DSR	
Dithiocarbamate ester (C7-C35)	34		DHO	
Ditridecyl adipate	34			
<i>Ditridecyl phthalate</i> , <i>see</i> Dialkyl(C7-C13) phthalates			DTP	DAH
<i>Diundecyl phthalate</i> , <i>see</i> Dialkyl(C7-C13) phthalates			DUP	DAH
Dodecane	31	1	DOC	ALJ
tert-Dodecanethiol	0	2	DDL	
Dodecanol	20	2	DDN	LAL
Dodecene	30		DOZ	DDC/DOD
2-Dodecenylsuccinic acid, dipotassium salt solution	34			DSP
Dodecyl alcohol (<i>IMO cargo name</i>), <i>see</i> Dodecanol				DDN
Dodecylamine, Tetradecylamine mixture	7	2	DTA	
Dodecylbenzene, <i>see</i> Alkyl(C9+)benzenes	32	2	DDB	AKB

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Dodecylbenzenesulfonic acid	0	1, 2	DSA	
Dodecyldimethylamine, Tetradecyldimethylamine mixture	7	.....	DOT	
Dodecyl diphenyl ether disulfonate solution	43	.....	DOS	
Dodecyl hydroxypropyl sulfide	0	1, 2	DOH	
Dodecyl methacrylate	14	1	DDM	
Dodecyl-Octadecyl methacrylate mixture	14	1	DOM	
Dodecyl-Pentadecyl methacrylate mixtures	14	1	DDP	
Dodecyl phenol	21	.....	DOL	
Dodecyl xylene	32	2	DXY	
Drilling brine (containing Calcium, Potassium or Sodium salts)	43	.....		DRB
Drilling brine (containing Zinc salts)	43	.....	DZB	
Drilling mud (low toxicity) (<i>if flammable or combustible</i>)	33	.....		DRM
Drilling mud (low toxicity) (<i>if non-flammable or non-combustible</i>)	43	.....		DRM
Epichlorohydrin	17	1	EPC	
Epoxy resin	18	.....		
ETBE, <i>see</i> Ethyl tert-butyl ether .....	.....	.....		EBE
Ethane	31	1	ETH	
Ethanolamine (<i>monoethanolamine</i>)	8	.....	MEA	
2-Ethoxyethanol, <i>see</i> Ethylene glycol monoalkyl ethers .....	.....	.....	EEO	EGC
2-Ethoxyethyl acetate	34	.....	EEA	
Ethoxylated alcohols, C11-C15, <i>see the alcohol polyethoxylates</i> .....	.....	.....		
Ethoxylated long chain (C16+) alkyloxyalkanamine	8	.....	ELA	
Ethoxy triglycol	40	.....	ETG	
Ethyl acetate	34	.....	ETA	
Ethyl acetoacetate	34	.....	EAA	
Ethyl acrylate	14	1	EAC	
Ethyl alcohol	20	2	EAL	
Ethylamine	7	2	EAM	
Ethylamine solution	7	.....	EAN	
Ethyl amyl ketone	18	.....	EAK	ELK
Ethylbenzene	32	2	ETB	
Ethyl butanol	20	.....	EBT	
N-Ethyl-n-butylamine	7	.....	EBA	
Ethyl tert-butyl ether	41	2	EBE	
Ethyl butyrate	34	.....	EBR	
Ethyl chloride	36	.....	ECL	
Ethyl cyclohexane	31	1	ECY	
N-Ethylcyclohexylamine	7	.....	ECC	
Ethylene	30	.....	ETL	
Ethyleneamine EA 1302	7	2	EMX	EDA
Ethylene carbonate	34	.....		
Ethylene chlorohydrin	20	.....	ECH	
Ethylene cyanohydrin	20	.....	ETC	
Ethylenediamine	7	2	EDA	EMX
Ethylenediaminetetraacetic acid, tetrasodium salt solution	43	.....	EDS	
Ethylene dibromide	36	.....	EDB	
Ethylene dichloride	36	2	EDC	
Ethylene glycol	20	2	EGL	
Ethylene glycol acetate	34	.....	EGO	
Ethylene glycol butyl ether, <i>see</i> Ethylene glycol monoalkyl ethers .....	.....	.....	EGM	EGC
Ethylene glycol tert-butyl ether, <i>see</i> Ethylene glycol monoalkyl ethers .....	.....	.....		EGC
Ethylene glycol butyl ether acetate	34	.....	EMA	
Ethylene glycol diacetate	34	.....	EGY	
Ethylene glycol dibutyl ether	40	.....	EGB	
Ethylene glycol ethyl ether, <i>see</i> Ethyl glycol monoalkyl ethers .....	.....	.....	EGE	EGC/EEO
Ethylene glycol ethyl ether acetate, <i>see</i> 2-Ethoxyethyl acetate .....	.....	.....	EGA	EEA
Ethylene glycol hexyl ether	40	.....	EGH	
Ethylene glycol isopropyl ether, <i>see</i> Ethylene glycol monoalkyl ethers .....	.....	.....	EGI	EGC
Ethylene glycol methyl butyl ether, <i>see</i> Ethylene glycol monoalkyl ethers	40	.....	EMB	EGC
Ethylene glycol methyl ether, <i>see</i> Ethylene glycol monoalkyl ethers .....	.....	.....	EME	EGC
Ethylene glycol methyl ether acetate	34	.....	EGT	
Ethylene glycol monoalkyl ethers	40	.....	EGC	
Including:				
Ethylene glycol butyl ether				
Ethylene glycol isobutyl ether				
Ethylene glycol tert-butyl ether				
Ethylene glycol ethyl ether				
Ethylene glycol hexyl ether				
Ethylene glycol methyl ether				
Ethylene glycol propyl ether				
Ethylene glycol isopropyl ether				
Ethylene glycol phenyl ether	40	.....	EPE	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture	40		EDX	EGC EGC
<i>Ethylene glycol propyl ether, see Ethylene glycol monoalkyl ethers</i> .....	.....	.....	EGP	
<i>Ethylene glycol iso-propyl ether, see Ethylene glycol monoalkyl ethers</i> .....	.....	.....	EGI	
Ethylene oxide	0	1	EOX	
Ethylene oxide, Propylene oxide mixture	16	1	EPM	OAL OAY OCX
Ethylene-Propylene copolymer	30	.....	.....	
Ethylene-Vinyl acetate copolymer emulsion	43	.....	.....	
Ethyl ether	41	.....	EET	
Ethyl-3-ethoxypropionate	34	.....	EEP	
<i>2-Ethylhexaldehyde, see Octyl aldehydes</i> .....	.....	.....	HA	
<i>2-Ethylhexanoic acid, see Octanoic acids</i> .....	.....	.....	EHO	
<i>2-Ethylhexanol, see Octanol</i> .....	.....	.....	EHX	
2-Ethylhexyl acrylate	14	1	EAI	
2-Ethylhexylamine	7	.....	EHM	
Ethyl hexyl phthalate	34	.....	EHE	
<i>Ethyl hexyl tallate</i>	34	.....	EHT	
2-Ethyl-1-(hydroxymethyl)propane-1,3-diol, C8-C10 ester	34	.....	EHD	
Ethylidene norbornene	30	2	ENB	
Ethyl methacrylate	14	1	ETM	
N-Ethylmethylallylamine	7	.....	EML	
2-Ethyl-6-methyl-N-(1'-methyl-2-methoxyethyl)aniline	9		EEM	SRA FCL STA
o-Ethyl phenol	21	.....	EPL	
Ethyl propionate	34	.....	EPR	
2-Ethyl-3-propylacrolein	19	2	EPA	
Ethyl toluene	32	2	ETE	
Fatty acids (saturated, C13+), <i>see Fatty acids (saturated, C14+)</i> .....	.....	.....	.....	
Fatty acids (saturated, C14+)	34	.....	FAD	
Ferric chloride solution	1	1	FCS	
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	43	2	FHX	
Ferric nitrate, Nitric acid solution	3	.....	FNN	
Fish solubles (<i>water based fish meal extracts</i>)	43	.....	FSO	
Fluorosilicic acid	1	1	FSJ	
Formaldehyde, Methanol mixtures	19	2	MTM	
Formaldehyde solution	19	2	FMS	
Formamide	10		FAM	AVA
Formic acid	4	2	FMA	
Fructose solution	43	.....	.....	
Fumaric adduct of Rosin, water dispersion	43	.....	FAR	
Furfural	19	.....	FFA	
Furfuryl alcohol	20	2	FAL	
Gas oil, cracked	33	.....	GOC	
Gasoline blending stock, alkylates	33	.....	GAK	
Gasoline blending stock, reformates	33	.....	GRF	
Gasolines:				
Automotive (<i>not over 4.23 grams lead per gal.</i>)	33	.....	GAT	
Aviation (<i>not over 4.86 grams lead per gal</i>)	33	.....	GAV	
Casinghead (<i>natural</i>)	33	.....	GCS	
Polymer	33	.....	GPL	
Straight run	33	.....	GSR	
Glucose solution	43		GLU	DTS
Glutaraldehyde solution	19	.....	GTA	
Glycerine	20	2	GCR	
Glycerine, Dioxanedimethanol mixture	20	.....	GDM	
Glycerol monooleate	20		GMO	GLT
Glycerol polyalkoxylate	34	.....	.....	
Glyceryl triacetate	34	.....	.....	
Glycidyl ester of C10 trialkyl acetic acid (<i>IMO cargo name</i>), <i>see Glycidyl ester of tridecyl acetic acid.</i>	34	.....	.....	
Glycidyl ester of tridecylacetic acid	34		GLT	GLT
<i>Glycidyl ester of Versatic acid, see Glycidyl ester of tridecylacetic acid</i> .....	.....	.....	.....	
Glycine, sodium salt solution	7	.....	.....	
<i>Glycol diacetate, see Ethylene glycol diacetate</i> .....	.....	.....	.....	
Glycolic acid solution	4		GLC	EGY
Glyoxal solutions	19	.....	GOS	
Glyoxylic acid	4	.....	GAC	
Glyphosate solution (not containing surfactant) (See also ROUNDUP)	7	.....	GIO	
<i>Heptadecane, see n-Alkanes (C10+)</i>				ALJ ALK (HPI/HPT)
Heptane	31	1	HMX	
n-Heptanoic acid	4	.....	HEP	
Heptanol	20	.....	HTX	
Heptene	30		HPX	HTN HTE

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Heptyl acetate	34	.....	HPE	
<i>Herbicide (C15-H22-NO2-Cl)</i> , see Metolachlor .....	.....	.....		MCO
<i>Hexadecanol (cetyl alcohol)</i> , see Alcohols (C13+) .....	.....	.....		ALY
1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)naphthalene mixture	32	2		
<i>Hexaethylene glycol</i> , see Polyethylene glycol .....	.....	.....		
Hexamethylene glycol	20	.....		
Hexamethylenediamine	7	.....	HME	HMD/HMC
Hexamethylenediamine solution	7	.....	HMC	HMD/HME
Hexamethylenediamine adipate solution	43	.....	HAM	
Hexamethylene diisocyanate	12	.....	HDI	
Hexamethylenetetramine	7	.....	HMT	
Hexamethylenetetramine solutions	7	.....	HTS	
Hexamethylenimine	7	.....	HMI	
Hexane	31	2	HXS	ALK (IHA/HXA)
Hexanoic acid	4	.....	HXO	
Hexanol	20	.....	HXN	
Hexene	30	.....	HEX	HXE/HXT/MPN/ MTN
Hexyl acetate	34	.....	HAE	HSA
Hexylene glycol	20	.....	HXG	
HiTec 321	7	.....	HIT	
<i>Hog grease</i> , see Lard .....	.....	.....		
Hydrochloric acid	1	1	HCL	
<i>Hydrofluorosilicic acid</i> , see Fluorosilicic acid .....	.....	.....	HFS	FSJ
bis(Hydrogenated tallow alkyl)methyl amines	7	.....	HTA	
Hydrogen peroxide solutions	0	1		HPN/HPS/HPO
2-Hydroxyethyl acrylate	14	2	HAI	
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	43	.....	HET	FHX
N,N-bis(2-Hydroxyethyl) oleamide	10	.....	HOO	
2-Hydroxy-4-(methylthio)butanoic acid	4	.....	HBA	
Hydroxy terminated polybutadiene (<i>IMO cargo name</i>), see Polybutadiene, hydroxy terminated	20	.....		
<i>alpha-hydro-omega-Hydroxytetradeca(oxytetramethylene)</i> , see Poly(tetramethylene ether) glycols (mw 950-1050).	.....	.....		HTO
Icosa(oxypropane-2,3-diyl)s	20	.....	IOP	
Isophorone	18	2	IPH	
Isophorone diamine	7	.....	IPJ	
Isophorone diisocyanate	12	.....	IPD	
Isoprene	30	.....	IPR	
Isoprene concentrate (Shell)	30	.....	ISC	
<i>Isopropylbenzene (cumene)</i> , see Propylbenzene .....	.....	.....		PBY
Jet fuels:				
JP-4	33	.....	JPF	
JP-5	33	.....	JPV	
JP-8	33	.....	JPE	
Kaolin clay slurry	43	.....		
Kerosene	33	.....	KRS	
Ketone residue	18	.....	KTR	
Kraft black liquor	5	.....		KPL
Kraft pulping liquors (<i>Black, Green, or White</i>)	5	.....	KPL	
Lactic acid	0	1, 2	LTA	
Lactonitrile solution	37	.....	LNI	
Lard	34	.....		
Latex (ammonia inhibited)	30	.....	LTX	
Latex, liquid synthetic	43	.....	LLS	LTX
Lauric acid	34	.....	LRA	
<i>Lauryl polyglucose</i> , see Alkyl(C12 -C14) polyglucoside solution (55% or less) .....	.....	.....	LAP	AGM
Lecithin	34	.....	LEC	
Lignin liquor	43	.....		
<i>Lignin sulfonic acid, sodium salt solution</i> , see Sodium lignosulfonate solution .....	.....	.....		
<i>d-Limonene</i> , see Dipentene .....	.....	.....		
Liquid Streptomyces solubles	43	.....		
Long chain alkaryl polyether (C11-C20)	41	.....	LCP	
Long chain alkaryl sulfonic acid (C16-C60)	0	1, 2	LCS	
Long chain alkylphenate/Phenol sulfide mixture	21	.....	LPS	
Long chain polyetheramine in alkyl(C2-C4)benzenes	7	.....	LCE	
L-Lysine solution	43	.....	LYS	
Magnesium chloride solution	0	1, 2		
Magnesium hydroxide slurry	5	.....		
Magnesium long chain alkaryl sulfonate (C11-C50)	34	.....	MAS	MSE
Magnesium long chain alkyl phenate sulfide (C8-C20)	34	.....	MPS	
Magnesium long chain alkyl salicylate (C11+)	34	.....	MLS	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
<i>Magnesium nonyl phenol sulfide, see</i> Magnesium long chain alkyl phenate sulfide (C8-C20) .....	.....	.....	.....	MPS
<i>Magnesium sulfonate, see</i> Magnesium long chain alkaryl sulfonate (C11-C50) .....	.....	.....	MSE	MAS
Maleic anhydride	11	.....	MLA	.....
Mercaptobenzothiazol, sodium salt solution (<i>IMO cargo name</i>), <i>see</i> Sodium-2-mercaptobenzothiazol solution.	5	.....	.....	SMB
Mesityl oxide	18	2	MSO	.....
Metam sodium solution	7	.....	MSS	SMD
Methacrylic acid	4	.....	MAD	.....
Methacrylic resin in Ethylene dichloride	14	1	MRD	.....
Methacrylonitrile	15	2	MET	.....
Methane	31	1	MTH	.....
3-Methoxy-1-butanol	20	.....	.....	.....
3-Methoxybutyl acetate	34	.....	MOA	.....
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide (<i>IMO cargo name</i>), <i>see</i> Metolachlor.	34	.....	.....	MCO
1-Methoxy-2-propyl acetate	34	.....	MPO	.....
<i>Methoxy triglycol</i>	40	.....	MTG	.....
Methyl acetate	34	.....	MTT	.....
Methyl acetoacetate	34	.....	MAE	.....
Methyl acetylene, Propadiene mixture	30	.....	MAP	.....
Methyl acrylate	14	1	MAM	.....
Methyl alcohol	20	2	MAL	.....
Methylamine solutions	7	.....	MSZ	.....
Methyl amyl acetate	34	.....	MAC	.....
Methyl amyl alcohol	20	.....	MAA	MIC
Methyl amyl ketone	18	.....	MAK	.....
Methyl bromide	36	.....	MTB	.....
<i>Methyl butanol, see the amyl alcohols</i> .....	.....	.....	.....	AAI
Methyl butenol	20	.....	MBL	.....
<i>Methyl butenes (tert-amylenes), see</i> Pentene .....	.....	.....	.....	PTX
Methyl tert-butyl ether	41	2	MBE	.....
Methyl butyl ketone	18	2	MBK	.....
Methylbutynol, <i>see</i> 2-Methyl-2-hydroxy-3-butyne	20	.....	MBY	MHB
3-Methyl butyraldehyde	19	.....	.....	.....
Methyl butyrate	34	.....	MBU	.....
Methyl chloride	36	.....	MTC	.....
Methylcyclohexane	31	1	MCY	.....
Methylcyclopentadiene dimer	30	.....	MCK	.....
Methyl diethanolamine	8	.....	MDE	MAB
<i>Methylene chloride, see</i> Dichloromethane .....	.....	.....	.....	DCM
2-Methyl-6-ethylaniline	9	.....	MEN	.....
Methyl ethyl ketone	18	2	MEK	.....
2-Methyl-5-ethylpyridine	9	.....	MEP	.....
Methyl formate	34	.....	MFM	.....
N-Methylglucamine solution	43	.....	MGC	.....
Methyl heptyl ketone	18	.....	MHK	.....
2-Methyl-2-hydroxy-3-butyne	20	.....	MHB	.....
Methyl isoamyl ketone	18	.....	.....	MAK
<i>Methyl isobutyl carbinol, see</i> Methyl amyl alcohol .....	.....	.....	MIC	MAA
Methyl isobutyl ketone	18	2	MIK	.....
Methyl methacrylate	14	1	MMM	.....
3-Methyl-3-methoxybutanol	20	.....	.....	.....
3-Methyl-3-methoxybutyl acetate	34	.....	.....	.....
Methyl naphthalene	32	2	MNA	.....
Methylolureas	19	.....	MUS	.....
2-Methyl pentane	31	1	.....	IHA
<i>2-Methyl-1-pentene, see</i> Hexene .....	.....	.....	MPN	HEX
<i>4-Methyl-1-pentene, see</i> Hexene .....	.....	.....	MTN	HEX
Methyl tert-pentyl ether (<i>IMO cargo name</i>), <i>see</i> tert-Amyl methyl ether	41	.....	.....	AYE
2-Methyl-1,3-propanediol	20	.....	MDL	.....
Methyl propyl ketone	18	.....	MKE	.....
Methylpyridine	9	.....	.....	MPR/MPE/MPF
N-Methyl-2-pyrrolidone	9	2	MPY	.....
Methyl salicylate	34	.....	MES	.....
alpha-Methylstyrene	30	.....	MSR	.....
3-(Methylthio)propionaldehyde	19	.....	MTP	.....
Metolachlor	34	.....	MCO	.....
Milk	43	.....	.....	.....
Mineral spirits	33	.....	MNS	.....
Molasses	20	.....	.....	.....
Molasses residue	0	1	.....	.....

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Monochlorodifluoromethane	36	.....	MCF	
<i>Monoethanolamine, see Ethanolamine</i> .....	.....	.....		
<i>Monoisopropanolamine, see Propanolamine</i> .....	.....	.....		
Morpholine	7	2	MPL	
Motor fuel antiknock compounds containing lead alkyls	0	1	MFA	
<i>MTBE, see Methyl tert-butyl ether</i> .....	.....	.....		MBE
Myrcene	30	.....	MRE	
Naphtha:				
Aromatic	33	.....		
Coal tar solvent	33	.....	NCT	
Heavy	33	.....		
Paraffinic	33	.....		
Petroleum	33	.....	PTN	
Solvent	33	.....	NSV	
Stoddard solvent	33	.....	NSS	
Varnish Makers' and Painters'	33	.....	NVM	
Naphthalene	32	2	NTM	
Naphthalene still residue	32	2	NSR	
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution	0	1	NFS	
Naphthalene sulfonic acid, sodium salt solution	34	.....	NSA	
Naphthenic acid	4	.....	NTI	
Naphthenic acid, sodium salt solution	43	.....	NTS	
Neodecanoic acid	4	.....	NEA	
NIAX POLYOL APP 240C	0	1, 2	NXP	
Nitrating acid	0	1	NIA	
Nitric acid (70% or less)	3	.....	NCD	
Nitric acid (greater than 70%)	0	1		NAC
Nitrobenzene	42	.....	NTB	
<i>o-Nitrochlorobenzene, see Chloronitrobenzene</i> .....	.....	.....		CNO
Nitroethane	42	.....	NTE	
Nitroethane, 1-Nitropropane mixtures	42	.....	NNO	
<i>o</i> -Nitrophenol	0	1, 2	NTP	NIP/NPH
Nitropropane	42	.....	NPM	NPN/NPP
Nitropropane, Nitroethane mixture	42	.....		NNO (NNM/ NNL)
Nitrotoluene	42	.....	NIT	NIE/NTT/NTR
Nonane	31	1	NAX	ALK (NAN)
Nonanoic acid	4	.....	NNA	NAI/NIN
Nonanoic, Tridecanoic acid mixture	4	.....	NAT	
Nonene	30	.....	NOO	NON/NNE
Nonyl acetate	34	.....	NAE	
Nonyl alcohol	20	2	NNS	NNI/NNN/DBC
<i>Nonylbenzene, see Alkyl(C9+)benzenes</i> .....	.....	.....		AKB
Nonyl methacrylate	14	1	NMA	
Nonyl phenol	21	.....	NNP	
Nonyl phenol poly(4+)ethoxylates	40	.....	NPE	
<i>Nonyl phenol sulfide solution, see Alkyl phenol sulfide (C8-C40)</i> .....	.....	.....		AKS/NPS
Noxious Liquid Substance, n.o.s. (NLS's)	0	1		
<i>1-Octadecene, see the olefin or alpha-olefin entries</i> .....	.....	.....		
Octadecenoamide	10	.....	ODD	
<i>Octadecenol (oleyl alcohol), see Alcohols (C13+)</i> .....	.....	.....		ALY
Octane	31	1	OAX	ALK (IOO/OAN)
Octanoic acid	4	.....	OAY	OAA/EHO
Octanol	20	2	OCX	IOA/OTA/EHX
Octene	30	.....	OTX	OTE
<i>n</i> -Octyl acetate	34	.....	OAF	OAE
<i>Octyl alcohol, see Octanol</i> .....	.....	.....		OCX
Octyl aldehyde	19	.....	OAL	IOC/OLX/EHA
Octyl decyl adipate	34	.....	ODA	
<i>Octyl nitrate, see Alkyl(C7-C9) nitrates</i> .....	.....	.....	ONE	AKN
Octyl phenol	21	.....		
<i>Octyl phthalate, see Dioctyl phthalate</i> .....	.....	.....		DOP
Oil, edible:				
Beechnut	34	.....	OBN	VEO
Castor	34	.....	OCA	VEO
Cocoa butter	34	.....	OCB	VEO
Coconut	34	2	OCC	VEO
Cod liver	34	.....	OCL	AFN
Corn	34	.....	OCO	VEO
Cottonseed	34	.....	OCS	VEO
Fish	34	2	OFS	AFN

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Groundnut	34	.....	OGN	VEO
Hazelnut	34	.....	OHN	VEO
Lard	34	.....	OLD	AFN
Maize	34	.....		VEO (OCO)
Nutmeg butter	34	.....	ONB	VEO
Olive	34	.....	OOL	VEO
Palm	34	2	OPM	VEO
Palm kernel	34	.....	OPO	VEO
Peanut	34	.....	OPN	VEO
Poppy	34	.....	OPY	VEO
Poppy seed	34	.....		VEO
Raisin seed	34	.....	ORA	VEO
Rapeseed	34	.....	ORP	VEO
Rice bran	34	.....	ORB	VEO
Safflower	34	.....	OSF	VEO
Salad	34	.....	OSL	VEO
Sesame	34	.....	OSS	VEO
Soya bean	34	.....	OSB	VEO
Sunflower seed	34	.....	OSN	VEO
Tucum	34	.....	OTC	VEO
Vegetable	34	.....	OVG	VEO
Walnut	34	.....	OWN	VEO
Oil, fuel:				
No. 1	33	.....	OON	
No. 1-D	33	.....	OOD	
No. 2	33	.....	OTW	
No. 2-D	33	.....	OTD	
No. 4	33	.....	OFR	
No. 5	33	.....	OFV	
No. 6	33	.....	OSX	
Oil, misc:				
Aliphatic	33	.....		
Animal	34	.....	OMA	AFN
Aromatic	33	.....		
Clarified	33	.....	OCF	
Coal	33	.....		
Coconut oil, fatty acid methyl ester	34	.....	OCM	
Cotton seed oil, fatty acid	34	.....	CFY	
Crude	33	.....	OIL	
Diesel	33	.....	ODS	
Gas, high pour	33	.....		
Gas, low pour	33	.....		
Gas, low sulfur	33	.....		
Heartcut distillate	33	.....		
Lanolin	34	.....	OLL	AFN
Linseed	33	.....	OLS	
Lubricating	33	.....	OLB	
Mineral	33	.....	OMN	
Mineral seal	33	.....	OMS	
Motor	33	.....	OMT	
Neatsfoot	33	.....	ONF	AFN
Oiticica	34	.....	OOI	
Palm oil, fatty acid methyl ester	34	.....	OPE	
Penetrating	33	.....	OPT	
Perilla	34	.....	OPR	
Pilchard	34	.....	OPL	AFN
Pine	33	.....	OPI	PNL
Residual	33	.....		
Road	33	.....	ORD	
Rosin	33	.....	ORN	
Seal	34	.....		
Soapstock	34	.....	OIS	
Soybean (epoxidized)	34	.....		EVO
Sperm	33	.....	OSP	AFN
Spindle	33	.....	OSD	
Tall	34	.....	OTL	
Tall, fatty acid	34	2	TOF	
Transformer	33	.....	OTF	
Tung	34	.....	OTG	
Turbine	33	.....	OTB	
Wood	34	.....		

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Olefin/Alkyl ester copolymer (molecular weight 2000+)	34	.....	OCP	
Olefin mixtures	30	.....		OFX/OFY
alpha-Olefins (C6-C18) mixtures	30	.....	OAM	
Olefins (C13+)	30	.....		
Oleic acid	34	.....	OLA	
Oleum	0	1, 2	OLM	
Oleyl alcohol (octadecanol), see Alcohols (C13+)				ALY
Oleylamine	10	.....	OLY	
ORIMULSION, see Asphalt emulsion				ASQ
Oxyalkylated alkyl phenol formaldehyde	33	.....		
Palm kernel acid oil	34	.....	PNO	
Palm kernel acid oil, methyl ester	34	.....	PNF	
Palm kernel oil, fatty acid, see Palm kernel acid oil				PNO
Palm kernel oil, fatty acid methyl ester, see Palm kernel acid oil, methyl ester				PNF
Palm stearin	34	.....	PMS	
n-Paraffins (C10-C20), see n-Alkanes (C10+)			PFN	ALJ
Paraldehyde	19	.....	PDH	
Paraldehyde-Ammonia reaction product	9	.....	PRB	
Pentachloroethane	36	.....	PCE	
Pentacos(oxypropane-2,3-diyl)s	20	.....	POY	
Pentadecanol, see Alcohols (C13+)			PDC	ALY
1,3-Pentadiene	30	.....	PDE	PDN
Pentaethylene glycol, see Polyethylene glycols				
Pentaethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether				PAG
Pentaethylenhexamine	7	.....	PEN	
Pentaethylenhexamine, Tetraethylenepentamine mixture	7	.....	PEP	
Pentane	31	1	PTY	IPT/PTA
Pentanoic acid	4	.....	POC	
n-Pentanoic acid, 2-Methyl butyric acid mixture	4	.....	POJ	POC
Pentasodium salt of Diethylenetriamine pentaacetic acid solution, see Diethylenetriamine pentaacetic acid, pentasodium salt solution.				
Pentene	30	.....	PTX	PTE
Pentyl aldehyde	19	.....		
n-Pentyl propionate	34	.....	PPE	
Perchloroethylene	36	2	PER	TTE
Petrolatum	33	.....	PTL	
Phenol	21	.....	PHN	
1-Phenyl-1-xylyl ethane	32	2	PXE	
Phosphate esters, alkyl(C12-C14)amine	7	.....	PEA	
Phosphoric acid	1	1	PAC	
Phosphorus	0	1	PPW	PPR/PPB
Phthalate based polyester polyol	0	1, 2	PBE	
Phthalic anhydride	11	.....	PAN	
alpha-Pinene	30	.....	PIO	PIN
beta-Pinene	30	.....	PIP	PIN
Pine oil	33	.....	PNL	OPI
Polyalkyl(C18-C22) acrylate in Xylene	14	1	PIX	
Polyalkylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether			PGB	PAG
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40	.....	PAG	
Including:				
Diethylene glycol butyl ether				
Diethylene glycol ethyl ether				
Diethylene glycol n-hexyl ether				
Diethylene glycol methyl ether				
Diethylene glycol n-propyl ether				
Dipropylene glycol butyl ether				
Dipropylene glycol methyl ether				
Polyalkylene glycol butyl ether				
Polyethylene glycol monoalkyl ether				
Polypropylene glycol methyl ether				
Tetraethylene glycol methyl ether				
Triethylene glycol butyl ether				
Triethylene glycol ethyl ether				
Triethylene glycol methyl ether				
Tripropylene glycol methyl ether				
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	34	.....	PAF	
Including:				
Diethylene glycol butyl ether acetate				
Diethylene glycol ethyl ether acetate				
Diethylene glycol methyl ether acetate				
Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures	40	.....	PPX	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Polyalkylene oxide polyol	20	.....	PAO	
<i>Polyalkyl methacrylate (C1-C20)</i> .....	.....	.....		
Polyalkyl(C10-C20)methacrylate	14	1	PMT	
Polyalkyl(C10-C18)methacrylate/Ethylene propylene copolymer mixture	14	1	PEM	
Polyaluminum chloride solution	1	1		
Polybutadiene, hydroxyl terminated	20	.....		
Polybutene	30	.....	PLB	
Polybutenyl succinimide	10	.....	PBS	
Poly(2+)cyclic aromatics	32	2	PCA	
Polydimethylsiloxane	34	.....		
Polyether (molecular weight 2000+)	41	.....	PYR	
Polyethylene glycol	40	.....		
Polyethylene glycol dimethyl ether	40	.....		
<i>Polyethylene glycol monoalkyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....	PEE	PAG
Polyethylene polyamines	7	2	PEB	
Polyferric sulfate solution	34	.....	PSS	
Polyglycerine, Sodium salts solution (containing less than 3% Sodium hydroxide)	20	2	PGT	
Polyglycerol	20	.....		GCR
Polyisobutenamine in aliphatic (C10-C14) solvent	7	.....	PIB	
Polyisobutenyl anhydride adduct	11	.....		
Poly(4+)isobutylene	30	.....		
Polymethylene polyphenyl isocyanate	12	.....	PPI	
Polymethylsiloxane	34	.....		
Polyolefin (molecular weight 300+)	30	.....		
Polyolefin amide alkeneamine (C17+)	33	.....	POH	
Polyolefin amide alkeneamine (C28+)	33	.....	POD	
Polyolefin amide alkeneamine borate (C28-C250)	33	.....	PAB	
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture	7	.....		
Polyolefin amide alkeneamine polyol	20	.....	PAP	
Poly(C17+)olefin amine	7	.....	POG	
Polyolefinamine (C28-C250)	33	.....	POM	
Polyolefinamine in alkyl(C2-C4)benzenes	32	2	POF	
Polyolefin aminoester salt	34	.....	PAE	
Polyolefin anhydride	11	.....	PAR	
Polyolefin ester (C28-C250)	34	.....	POS	
Polyolefin phenolic amine (C28-C250)	7	.....	PPH	
Polyolefin phosphorosulfide, barium derivative (C28-C250)	34	.....	PPS	
Poly(20)oxyethylene sorbitan monooleate	34	.....	PSM	
Poly(5+)propylene	30	.....	PLQ	PLP
Polypropylene glycol	40	.....	PGC	
<i>Polypropylene glycol methyl ether, see Propylene glycol monoalkyl ether</i> .....	.....	.....	PGM	PGE
Polsiloxane	34	.....		DMP
Poly(tetramethylene ether) glycols (mw 950-1050) (<i>alpha-hydro-omega-Hydroxytetradeca(oxytetramethylene)</i>)	40	.....	HTO	
Polytetramethylene ether glycol	40	.....		
Potassium chloride solution	43	.....	PCS	(DRB)
Potassium formate solution	34	.....	PFR	
Potassium hydroxide solution (<i>IMO cargo name</i>), <i>see</i> Caustic potash solution	5	2		CPS
Potassium oleate	34	.....	POE	
Potassium salt of polyolefin acid	34	.....		
Potassium thiosulfate solution	43	.....	PTF	
Propane	31	1	PRP	
Propanolamine	8	.....	PAX	MPA/PLA
Propionaldehyde	19	.....	PAD	
Propionic acid	4	.....	PNA	
Propionic anhydride	11	.....	PAH	
Propionitrile	37	.....	PCN	
<i>n-Propoxypropanol, see Propylene glycol monoalkyl ether</i> .....	.....	.....	PXP	PGE
Propyl acetate	34	.....		IAC/PAT
Propyl alcohol	20	2		IPA/PAL
Propylamine	7	.....		IPP/PRA
iso-Propylamine solution	7	.....		IPO/IPQ
Propylbenzene	32	2	PBY	PBZ/CUM
n-Propyl chloride	36	.....	PRC	
iso-Propylcyclohexane	31	1	IPX	
Propylene	30	.....	PPL	
Propylene-butylene copolymer	30	.....	PBP	
Propylene carbonate	34	.....		
Propylene dimer	30	.....	PDR	
Propylene glycol	20	2	PPG	
<i>Propylene glycol n-butyl ether, see Propylene glycol monoalkyl ether</i> .....	.....	.....	PGD	PGE

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
<i>Propylene glycol ethyl ether, see Propylene glycol monoalkyl ether</i> .....	.....	.....	PGY	PGE
<i>Propylene glycol methyl ether, see Propylene glycol monoalkyl ether</i> .....	.....	.....	PME	PGE
Propylene glycol methyl ether acetate	34	.....	PGN	
Propylene glycol monoalkyl ether	40	.....	PGE	
Including:				
<i>n</i> -Propoxypropanol				
Propylene glycol <i>n</i> -butyl ether				
Propylene glycol ethyl ether				
Propylene glycol methyl ether				
Propylene glycol propyl ether				
Propylene glycol phenyl ether	40	.....	PGP	
<i>Propylene glycol propyl ether, see Propylene glycol monoalkyl ether</i> .....	.....	.....		PGE
Propylene oxide	16	1	POX	
Propylene, Propane, MAPP gas mixture	30	2	PPM	
Propylene tetramer	30	.....	PTT	
Propylene trimer	30	.....	PTR	
Propyl ether	41	.....		IPE/PRE
<i>Pseudocumene, see Trimethylbenzene</i> .....	.....	.....		TME/TRE
Pyridine	9	.....	PRD	
<i>Pyridine bases, see Paraldehyde-Ammonia reaction product</i> .....	.....	.....		PRB
Roehm monomer 6615	14	1	RMN	
Rosin oil	33	.....	ORN	
Rosin soap (disproportionated) solution	43	.....	RSP	
ROUNDUP (See also Glyphosate solution)	7	.....	RUP	
<i>Rum, see Alcoholic beverages</i> .....	.....	.....		
SAP 7001	0	1	SON	
Sewage sludge	43	.....		
Silica slurry	43	.....		
Sludge, treated	43	.....		
Sodium acetate, Glycol, Water mixture (not containing Sodium hydroxide)	34	2	SAO	SAP
Sodium acetate, Glycol, Water mixture (containing Sodium hydroxide)	5	.....	SAP	SAO
Sodium acetate solution	34	.....	SAN	AKP
Sodium alkyl sulfonate solution	43	.....	SSU	
Sodium alkyl (C14-C17) sulfonates 60-65% solution (<i>IMO cargo name</i>), <i>see Alkane (C14-C17) sulfonic acid, sodium salt solution.</i>	34	.....	AKA	
Sodium aluminate solution	5	.....	SAU	
Sodium aluminosilicate slurry	34	.....		
Sodium benzoate solution	34	.....	SBN	
Sodium borohydride, Sodium hydroxide solution	5	.....	SBX	SBH/SBI
Sodium carbonate solutions	5	.....	SCE	
Sodium chlorate solution	0	1, 2	SDD	SDC
Sodium cyanide solution	5	.....	SCS	SCN
Sodium dichromate solution	0	1, 2	SDL	SCR
<i>Sodium dimethyl naphthalene sulfonate solution, see Dimethyl naphthalene sulfonic acid, sodium salt solution.</i>	.....	.....		DNS
Sodium hydrogen sulfide, Sodium carbonate solution	0	1, 2	SSS	
Sodium hydrogen sulfite solution	43	.....	SHX	
Sodium hydrosulfide solution	5	2	SHR	
Sodium hydrosulfide, Ammonium sulfide solution	5	2	SSA	
Sodium hydroxide solution (<i>IMO cargo name</i>), <i>see Caustic soda solution</i>	5	2		CSS
Sodium hypochlorite solution	5	.....		SHP/SHQ/(SHC)
Sodium lignosulfonate solution, <i>see also Lignin liquor</i>	43	.....		
Sodium long chain alkyl salicylate (C13+)	34	.....	SLS	
Sodium 2-mercaptobenzothiazol solution	5	.....	SMB	
<i>Sodium N-methyl dithio carbamate solution, see Metam sodium solution</i> .....	.....	.....		MSS
<i>Sodium naphthalene sulfonate solution, see Naphthalene sulfonic acid, sodium salt solution</i> .....	.....	.....	SNS	NSA
<i>Sodium naphthenate solution, see Naphthenic acid, sodium salt solution</i> .....	.....	.....		NTS
Sodium nitrite solution	5	.....	SNI	SNT
Sodium petroleum sulfonate	33	.....	SPS	
Sodium polyacrylate solution	43	2		
<i>Sodium salt of Ferric hydroxyethylethylenediaminetriacetic acid solution, see Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution.</i>	.....	.....	STA	FHX
Sodium silicate solution	43	2	SSN	SSC
Sodium sulfide, Hydrosulfide solution	0	1, 2		SSH/SSI/SSJ
Sodium sulfide solution	43	.....	SDR	
Sodium sulfite solution	43	.....	SUP	SUS
Sodium tartrates, Sodium succinates solution	43	.....	STM	
Sodium thiocyanate solution	0	1, 2	STS	SCY
Sorbitol solutions	20	.....		SBT
Soyabean oil (expoxidized)	34	.....		OSC/EVO
<i>Stearic acid, see Fatty acids (saturated, C14+)</i> .....	.....	.....	SRA	FAD

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Stearyl alcohol	20	.....		
Styrene	30	.....	STY	STX
Sulfohydrocarbon (C3-C88)	33	.....	SFO	
Sulfohydrocarbon, long chain (C18+) alkylamine mixture	7	.....	SFX	
Sulfolane	39	.....	SFL	
Sulfonated polyacrylate solutions	43	2		
Sulfur	0	1	SXX	
Sulfuric acid	2	2	SFA	
Sulfuric acid, spent	2	2	SAC	
Sulfurized fat (C14-C20)	33	.....	SFT	
Sulfurized polyolefinamide alkene(C28-C250) amine	33	.....	SPO	
Tall oil	34	.....	OTL	
Tall oil fatty acid (<i>Resin acids less than 20%</i>)	34	2	TOF	
Tall oil fatty acid, barium salt	0	1, 2	TOB	
Tall oil soap (disproportionated) solution	43	.....	TOS	
Tallow	34	2	TLO	
Tallow fatty acid	34	2	TFD	
<i>Tallow fatty alcohol, see Alcohols (C13+)</i> .....	.....	.....	TFA	ALY
Tallow nitrile	37	.....	TAN	
<i>TAME, see tert-Amyl methyl ether</i> .....	.....	.....		AYE
1,1,2,2-Tetrachloroethane	36	.....	TEC	
<i>Tetrachloroethylene, see Perchloroethylene</i> .....	.....	.....	TTE	PER
<i>Tetradecanol, see Alcohols (C13+)</i> .....	.....	.....	TTN	ALY
<i>Tetradecene, see the olefins entries</i> .....	.....	.....	TTD	
Tetradecylbenzene, <i>see Alkyl(C9+) benzenes</i>	32	2	TDB	AKB
Tetraethylene glycol	40	.....	TTG	
<i>Tetraethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....		PAG
Tetraethylenepentamine	7	2	TTP	
Tetrahydrofuran	41	.....	THF	
Tetrahydronaphthalene	32	2	THN	
<i>1,2,3,5-Tetramethylbenzene, see Tetramethylbenzene</i> .....	.....	.....	TTB	TTC
Tetramethylbenzene	32	2	TTC	TTB
<i>Tetrapropylbenzene, see Alkyl(C9+) benzenes</i> .....	.....	.....		AKB
<i>Tetrasodium salt of EDTA solution, see Ethylenediaminetetraacetic acid, tetrasodium salt solution.</i> .....	.....	.....		EDS
Titanium dioxide slurry	43	.....	TDS	
Titanium tetrachloride	2	2	TTT	
Toluene	32	2	TOL	
Toluenediamine	9	.....	TDA	
Toluene diisocyanate	12	.....	TDI	
o-Toluidine	9	.....	TLI	
<i>Triarylphosphate, see Triisopropylated phenyl phosphates</i> .....	.....	.....	TRA	TPL
Tributyl phosphate	34	.....	TBP	
1,2,4-Trichlorobenzene	36	.....	TCB	
1,1,1-Trichloroethane	36	2	TCE	
1,1,2-Trichloroethane	36	.....	TCM	
Trichloroethylene	36	2	TCL	
1,2,3-Trichloropropane	36	2	TCN	
1,1,2-Trichloro-1,2,2-trifluoroethane	36	.....	TTF	
Tricresyl phosphate	34	.....		TCO/TCP
<i>Tridecane, see n-Alkanes (C10+)</i> .....	.....	.....	TRD	ALJ
Tridecanoic acid	34	.....	TDO	
<i>Tridecanol, see Alcohols (C13+)</i> .....	.....	.....	TDN	ALY
<i>Tridecene, see Olefins (C13+)</i> .....	.....	.....	TDC	
Tridecyl acetate	34	.....	TAE	
Tridecylbenzene, <i>see Alkyl(C9+) benzenes</i>	32	2	TRB	AKB
Triethanolamine	8	2	TEA	
Triethylamine	7	.....	TEN	
Triethylbenzene	32	2	TEB	
Triethylene glycol	40	.....	TEG	
<i>Triethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....		PAG
Triethylene glycol butyl ether mixture	40	.....		
Triethylene glycol dibenzoate	34	.....	TGB	
Triethylene glycol di-(2-ethylbutyrate)	34	.....	TGD	
Triethylene glycol ether mixture	40	.....		
<i>Triethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....	TGE	PAG
<i>Triethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....	TGY	PAG
Triethylenetetramine	7	2	TET	
Triethyl phosphate	34	.....	TPS	
Triethyl phosphite	34	2	TPI	
Triisobutylene	30	.....	TIB	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Triisooctyl trimellitate	34	.....		
Triisopropanolamine	8	.....	TIP	DTI
<i>Triisopropanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution.</i>	.....	.....		
Triisopropylated phenyl phosphates	34	.....	TPL	
Trimethylacetic acid	4	.....	TAA	
Trimethylamine solution	7	.....	TMT	
Trimethylbenzene	32	2	TRE	TME/TMB/TMD
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-)	7	.....	THA	
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-)	12	.....	THI	
<i>Trimethyl nonanol, see Dodecanol</i> .....	.....	.....		DDN
Trimethylol propane polyethoxylate	20	.....	TPR	
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	34	.....	TMQ	
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	34	.....	TMP	
2,2,4-Trimethyl-3-pentanol-1-isobutyrate	34	.....		
Trimethyl phosphite	34	2	TPP	
1,3,5-Trioxane	41	2	TRO	
Triphenylborane, Caustic soda solution	5	.....	TPB	
<i>Tripropylene, see Propylene trimer</i> .....	.....	.....		PTR
Tripropylene glycol	40	.....	TGC	
<i>Tripropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether</i> .....	.....	.....	TGM	PAG
Trisodium nitrilotriacetate	34	.....		
Trisodium phosphate solution	5	.....	TSP	
<i>Trisodium salt of N-(Hydroxyethyl)ethylenediaminetriacetic acid solution, see N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution.</i>	.....	.....		HET
Trixylyl phosphate (<i>IMO cargo name</i>), <i>see Trixylenyl phosphate</i>	34	.....		TRP
Trixylenyl phosphate	34	.....	TRP	
Turpentine	30	.....	TPT	
Ucarsol CR Solvent 302 SG	8	.....	UCS	
Undecanoic acid	4	.....	UDA	
<i>Undecanol, see Undecyl alcohol</i> .....	.....	.....		UND
Undecene	30	.....	UDC	
Undecyl alcohol	20	.....	UND	
Undecylbenzene, <i>see Alkyl(C9+) benzenes</i> .....	.....	.....	UDB	AKB
Urea, Ammonium mono- and di-hydrogen phosphate, Potassium chloride solution	0	1	UPX	
Urea, Ammonium nitrate solution (containing Ammonia)	6	.....	UAS	
Urea, Ammonium nitrate solution (not containing Ammonia)	43	.....	UAT	ANU
Urea, Ammonium phosphate solution	43	.....	UAP	
Urea solution	43	.....		URE
Valeraldehyde	19	.....	VAK	IVA/VAL
Vanillin black liquor	5	.....	VBL	
Vegetable oils, n.o.s.	34	.....	VEO	
<i>Including:</i>				
<i>Beechnut oil</i>				
<i>Castor oil</i>				
<i>Cocoa butter</i>				
<i>Coconut oil</i>				
<i>Corn oil</i>				
<i>Cottonseed oil</i>				
<i>Groundnut oil</i>				
<i>Hazelnut oil</i>				
<i>Linseed oil</i>				
<i>Nutmeg butter</i>				
<i>Oiticica oil</i>				
<i>Olive oil</i>				
<i>Palm kernel oil</i>				
<i>Palm oil</i>				
<i>Peel oil (oranges and lemons)</i>				
<i>Perilla oil</i>				
<i>Poppy oil</i>				
<i>Raisin seed oil</i>				
<i>Rapeseed oil</i>				
<i>Rice bran oil</i>				
<i>Safflower oil</i>				
<i>Salad oil</i>				
<i>Sesame oil</i>				
<i>Soya bean oil</i>				
<i>Sunflower seed oil</i>				
<i>Tucum oil</i>				
<i>Tung oil</i>				
<i>Walnut oil</i>				
Vegetable acid oils and distillates, n.o.s.	34	.....	VAO	

TABLE I.—ALPHABETICAL LIST OF CARGOES—Continued

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
<i>Including:</i>				
<i>Corn acid oil</i>				
<i>Cottonseed acid oil</i>				
<i>Dark mixed acid oil</i>				
<i>Groundnut acid oil</i>				
<i>Mixed acid oil</i>				
<i>Mixed general acid oil</i>				
<i>Mixed hard acid oil</i>				
<i>Mixed soft acid oil</i>				
<i>Rapeseed acid oil</i>				
<i>Safflower acid oil</i>				
<i>Soya acid oil</i>				
<i>Sunflower seed acid oil</i>				
Vegetable protein solution	43	.....		
Vinyl acetate	13	1	VAM	
Vinyl chloride	35	.....	VCM	
Vinyl ethyl ether	13	1	VEE	
Vinylidene chloride	35	.....	VCI	
Vinyl neodecanate	13	1	VND	
Vinyltoluene	13	1	VNT	
Water	43	.....		
Waxes:			WAX	
Candelilla	34	.....	WDC	
Carnauba	34	.....	WCA	
Paraffin	31	1	WPF	
Petroleum	33	.....		
Wine, see Alcoholic beverages				
White spirit (low (15-20%) aromatic)	33	.....	WSL	WSP
Xylene	32	2	XLX	XML/XLO/XLP
Xylenes, Ethylbenzene mixture	32	2	XEB	
Xylenols	21	.....	XYL	
Zinc alkaryl dithiophosphate (C7-C16)	34	.....	ZAD	
Zinc alkenyl carboxamide	10	.....	ZAA	
Zinc alkyl dithiophosphate (C3-C14)	34	.....	ZAP	
Zinc bromide, Calcium bromide solution, see Drilling brine (containing Zinc salts)				DZB

1. Because of very high reactivity or unusual conditions of carriage or potential compatibility problems, this commodity is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (G-MSO), U.S. Coast Guard, 2100 Second Street, SW., Washington, DC 20593-0001. Telephone (202) 267-1577.

2. See Appendix I-Exceptions to the Chart.

PART 150 TABLE II—[AMENDED]

9. In Table II, amend the designated Compatibility Groups as follows:

a. In Compatibility Group O, Unassigned Cargoes:

1. Remove the words “2-Hydroxyethyl acrylate ^{1,2}”.

2. Remove the words “Potassium polysulfide, Potassium thiosulfide solution (41% or less)”.

b. In Compatibility Group 7, Aliphatic Amines:

1. Remove the words “Calcium long chain alkyl phenolic amine (C8-C40)”.

2. Remove the word “Diethylenetriamine” and add, in its place, the word “Diethylenetriamine 2”.

3. Remove the words “Polyalkyl methacrylate (C1-C20)”.

4. Remove the words “Polyolefin amide alkeneamine polyol”.

5. Remove the words “Polyolefinamine in alkyl (C2-C4) benzenes”.

6. Remove the words “Polyolefin phenolic amine (C28-C250)”.

7. Remove the word “Tetraethylenepentamine” and add, in its place, the word

“Tetraethylenepentamine 2”.

c. In Compatibility Group 14, Acrylates, remove the words “Polyalkyl methacrylate (C1-C20)”, and add, in their place, the words “Polyalkyl (C10-C20) methacrylate”.

d. In Compatibility Group 18, Ketones, remove the entry “Methyl diethanolamine”.

e. In Compatibility Group 20, Alcohols, Glycols, remove the words “Polybutadiene, hydroxyl terminated” and add, in their place, the words “Polybutadiene, hydroxy terminated”.

f. In Compatibility Group 30, Olefins, remove the words “Pentene, Miscellaneous hydrocarbon mixture 2”.

g. In Compatibility Group 33, Miscellaneous Hydrocarbon Mixtures, from the entry “Alachlor technical” remove the word “technical”.

h. In Compatibility Group 34, Esters:

1. Remove the words “Alkyl phenol sulfide (C8-C40)” and add, in their

place, the words “Alkyl (C8-C40) phenol sulfide”.

2. Remove the words “Barium long chain alkaryl sulfonate (C11-C50)” and add, in their place, the words “Barium long chain alkaryl (C11-C50) sulfonate”.

3. Remove the words “Calcium long chain alkyl phenate (C8-C40)” and add the words “Calcium long chain alkyl phenates” following the entry for “Calcium long chain alkyl phenate sulfide (C8-C40)”.

4. Revise the entry “Fatty acids (saturated, C13+)”, to read “Fatty acids (saturated, C14+)”.

5. For the entry “Lecithin (soyabean)”, remove the word “(soyabean)”.

6. Remove the words “Polyolefin amide alkeneamine borate (C28-C250)”.

i. In Compatibility Group 36, Halogenated Hydrocarbons, remove the words “Carbon tetrachloride” and add, in their place, the words “Carbon tetrachloride 2”.

j. In Compatibility Group 40, Glycol Ethers,

1. Remove the words "Nonyl phenol (ethoxylated)".

2. Revise the entry "Nonyl phenol poly(4–12)ethoxylates", to read "Nonyl phenol poly(4+)ethoxylates".

3. Remove the words "Oil, misc:".

k. In Compatibility Group 42, Nitrocompounds, revise the entry "Nitropropane, Nitroethane mixture" to read "Nitropropane, Nitroethane mixtures".

l. In Compatibility Group 43, Miscellaneous Water Solutions, remove the words "N-Methylglucamine solution (70% or less)".

m. To the same Table II, add the following new entries in the designated Compatibility Groups, in chemically proper alphabetized order:

Table II—Grouping of Cargoes

* * * * *

0. Unassigned Cargoes

* * * * *

tert-Dodecanethiol ²

* * * * *

Hydrogen peroxide solutions ¹

* * * * *

NIAX POLYOL APP 240C ^{1, 2}

* * * * *

SAP 7001 ¹

* * * * *

4. Organic Acids

* * * * *

Glycolic acid

* * * * *

n-Pentanoic acid, 2-Methyl butyric acid mixture

* * * * *

7. Aliphatic Amines

* * * * *

N,N-Dimethyldodecylamine

* * * * *

Ethyleneamine EA 1302 ²

* * * * *

N-Ethylmethylallylamine

* * * * *

Glyphosate solution (not containing surfactant)

* * * * *

Hexamethylenediamine

* * * * *

HiTec 321

* * * * *

bis-(Hydrogenated tallow alkyl)methyl amines

* * * * *

Phosphate esters, alkyl (C12–C14) amine

* * * * *

Polyisobutenamine in aliphatic (C10–C14) solvent

* * * * *

Poly (C17+) olefin amine

* * * * *

Polyolefin amide alkeneamine (C17+)

* * * * *

iso-Propylamine solution

* * * * *

Roundup

8. Alkanolamines

* * * * *

Ethoxylated long chain (C16+)

alkyloxyalkanamine

* * * * *

Methyl diethanolamine

* * * * *

Ucarsol CR Solvent 302 SG

9. Aromatic Amines

* * * * *

Alkyl (C8–C9) phenylamine in aromatic solvents

* * * * *

Calcium long chain alkyl phenolic amine (C8–C40)

* * * * *

Dialkyl (C8–C9) diphenylamines

* * * * *

Diphenylamine

* * * * *

Paraldehyde-Ammonia reaction product

10. Amides

* * * * *

Acetochlor

* * * * *

N,N-bis(2-Hydroxyethyl) oleamide

* * * * *

Zinc alkenyl carboxamide

11. Organic Anhydrides

* * * * *

Polyisobutenyl anhydride adduct

* * * * *

12. Isocyanates

* * * * *

Hexamethylene diisocyanate

* * * * *

14. Acrylates

* * * * *

Dodecyl-Octadecyl methacrylate mixture

* * * * *

2-Hydroxyethyl acrylate ²

* * * * *

Polyalkyl (C10–C18) methacrylate/Ethylene

* * * * *

propylene copolymer mixture

* * * * *

Roehm monomer 6615

* * * * *

18. Ketones

* * * * *

1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one ²

* * * * *

19. Aldehydes

* * * * *

3-(Methylthio)propionaldehyde

* * * * *

20. Alcohols, Glycols

* * * * *

1,4-Butanediol

* * * * *

Diethyl hexanol

* * * * *

Icosa(oxypropane-2,3-diyl)s

* * * * *

2-Methyl-1,3-propanediol

* * * * *

Penacosa(oxypropane-2,3-diyl)s

* * * * *

Polyolefin amide alkeneamine polyol

* * * * *

Trimethyl nonanol

* * * * *

21. Phenols, Cresols

* * * * *

Dibutylphenols

* * * * *

30. Olefins

* * * * *

Cyclopentadiene, Styrene, Benzene mixture

* * * * *

Isoprene concentrate (Shell)

* * * * *

Methyl butene

* * * * *

Propylene, Propane, MAPP gas mixture

* * * * *

32. Aromatic Hydrocarbons

* * * * *

C9 Resinfeed (DSM) ²

* * * * *

1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)

* * * * *

naphthalene mixture

Naphthalene still residue

* * * * *

Polyolefin amine in alkylbenzenes (C2–C4)

* * * * *

Xylenes, Ethylbenzene mixture

33. Miscellaneous Hydrocarbon Mixtures

* * * * *

Asphalt emulsion

* * * * *

Coal tar distillate

Coal tar, high temperature

* * * * *

Degummed C9 (DOW)

* * * * *

Polyolefin amine (C28–C250)

Polyolefin amide alkeneamine (C17+)
Polyolefin amide alkeneamine borate
(C28–C250)

* * * * *

Sulfurized fat (C14–C20)
Sulfurized polyolefinamide
alkeneamines (C28–C250)

* * * * *

34. Esters

* * * * *

Alkyl (C10–C20, saturated and
unsaturated) phosphite
Alkyl sulfonic acid ester of phenol
Alkylaryl phosphate mixtures (more
than 40%)

Diphenyl tolyl phosphate, less than
0.02% ortho-isomer)

* * * * *

Calcium nitrate solution

* * * * *

Copper salt of long chain alkanolic acids

* * * * *

Diethylene glycol dibenzoate

* * * * *

Dithiocarbamate ester (C7–C35)

* * * * *

Ditridecyl adipate

* * * * *

Polyolefin aminoester salt

* * * * *

Potassium formate solution

* * * * *

Potassium salt of polyolefin acid

* * * * *

Tall oil fatty acid (*Resin acids less than
20%*)²

* * * * *

Triethylene glycol dibenzoate

* * * * *

36. Halogenated Hydrocarbons

* * * * *

Bromochloromethane

* * * * *

Catoxid feedstock²

* * * * *

Dibromomethane

* * * * *

Dibutylphenols

* * * * *

3,4-Dichloro-1-butene

* * * * *

1,2,3-Trichlorobenzene

* * * * *

40. Glycol Ethers

Alkyl (C7–C11) phenol poly(4-
12)ethoxylate

Alkyl (C9–C15) phenyl propoxylate

* * * * *

Pentaethylene glycol methyl ether

* * * * *

Poly(tetramethylene ether) glycols (mw
950–1050)

Polytetramethylene ether glycol

* * * * *

Tetraethylene glycol methyl ether

41. Ethers

* * * * *

tert-Amyl methyl ether

* * * * *

Ethyl tert-butyl ether²

* * * * *

Methyl tert-pentyl ether

42. Nitrocompounds

* * * * *

Nitroethane, 1-Nitropropane mixture

* * * * *

43. Miscellaneous Water Solutions

Alkyl polyglucoside solutions

* * * * *

Ammonium lignosulfonate solution

* * * * *

Calcium lignosulfonate solution

* * * * *

Caramel solutions

* * * * *

L-Lysine solution

* * * * *

Sodium lignosulfonate solution

* * * * *

Titanium dioxide slurry

* * * * *

Footnotes to Table II

¹ Because of very high reactivity or unusual conditions of carriage or potential compatibility problems, this product is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (G–MSO), U.S. Coast Guard, 2100 Second Street, SW., Washington, DC 20593–0001. Telephone (202) 267–1577.

² See Appendix I—Exceptions to the Chart.

PART 150 APPENDIX [AMENDED]

10. In appendix I(a):

a. Under the compound “Caustic Soda, 50% or less (5)” in the column “Member of reactive group”, revise the entry “Sodium chlorate (0)” in the column “Compatible with” to read “Sodium chlorate solution (0)”; add the new entry “Dodecyl alcohol (20)” to follow the entry “Diethylene glycol (40)” in the column “Compatible with”; and add the new entry “iso-Propyl alcohol (20)” to follow the entry “Propyl alcohol (20)” in the column “Compatible with”.

b. Preceding the entry “Dodecyl and Tetradecylamine mixture (7)” in the column “Member of reactive group”, add the new entry “tert-Dodecanethiol

(0)”; and, in the column “Compatible with”, add the corresponding entries “Acrylonitrile (15)”, “Diisodecyl phthalate (34)”, “Methyl ethyl ketone (18)”, “iso-Nonyl alcohol (20)”, “Perchloroethylene (36)”, “iso-Propyl alcohol (20)”, and “Tall oil, crude”.

c. Under the entry “Sodium hydrosulfide solution (5)” in the column “Member of reactive group”, add the new entry “Methyl alcohol (20)” to precede the entry “iso-Propyl alcohol (20)” in the column “Compatible with”.

11. In appendix I (b):

a. Remove the words “Ethylenediamine (7) is not compatible with Ethylene dichloride (36)” and add, in their place, the words “Ethylenediamine (7) and Ethyleneamine EA 1302 (7) are not compatible with either Ethylene dichloride (36) or 1,2,3-Trichloropropane (36)”.

b. Remove the words “Ethylene dichloride (36) is not compatible with Ethylenediamine (7)” and add, in their place, the words “Ethylene dichloride (36) is not compatible with Ethylenediamine (7) or Ethyleneamine EA 1302 (7)”.

c. Remove the words “2-Hydroxyethyl acrylate is not compatible with Groups 2, 3, 5–8 and 12” and add, in their place, the words “2-Hydroxyethyl acrylate (14) is not compatible with Group 5, 6, or 12”.

12. Amend Appendix I (b) by removing the following entries in their entirety:

a. “Naphtha, cracking fraction (33) is not compatible with strong acids, caustics or oxidizing agents”.

b. “Pentene, Miscellaneous hydrocarbon mixtures (30) are not compatible with strong acids or oxidizing agents”.

c. “Sodium salt of Ferric hydroxyethylethylenediamine triacetic acid solution (43) is not compatible with Group 3, Nitric acid”.

13. Amend Appendix I (b) by adding the following new entries in chemically proper alphabetical order to read as follows:

* * * * *

C9 Resinfeed (DSM) (32) is not compatible with Group 2, Sulfuric acid.

* * * * *

Carbon tetrachloride (36) is not compatible with Tetraethylenepentamine or Triethylenetetramine, both Group 7, Aliphatic amines.

* * * * *

Catoxid feedstock (36) is not compatible with Group 1, 2, 3, 4, 5, or 12.

* * * * *

1-(4-Chlorophenyl)-4,4-dimethyl
pentan-3-one (18) is not compatible
with Group 5 (Caustics) or 10 (Amides).

* * * * *

Diethylenetriamine (7) is not
compatible with 1,2,3-
Trichloropropane, Group 36,
Halogenated hydrocarbons.

* * * * *

Ethyl tert-butyl ether (41) is not
compatible with Group 1, Non-oxidizing
mineral acids.

* * * * *

NIAX POLYOL APP 240C (0) is not
compatible with Group 2, 3, 5, 7, or 12.

* * * * *

Propylene, Propane, MAPP gas
mixture (containing 12% or less MAPP
gas) (30) is not compatible with Group
1 (Non-oxidizing mineral acids), Group

36 (Halogenated hydrocarbons),
nitrogen dioxide, oxidizing materials, or
molten sulfur.

* * * * *

Tall oil fatty acid (*Resin acids less
than 20%*) (34) is not compatible with
Group 5, Caustics.

* * * * *

Tetraethylenepentamine (7) is not
compatible with Carbon tetrachloride,
Group 36, Halogenated hydrocarbons.

* * * * *

1,2,3-Trichloropropane (36) is not
compatible with Diethylenetriamine,
Ethylenediamine, Ethyleaneamine EA
1302, or Triethylenetetramine, all Group
7, Aliphatic amines.

* * * * *

Triethylenetetramine (7) is not
compatible with Carbon tetrachloride,

or 1,2,3-Trichloropropane, both Group
36, Halogenated hydrocarbons.

* * * * *

PART 151—BARGES CARRYING BULK LIQUID HAZARDOUS MATERIAL CARGOES

14. The citation of authority for part
151 continues to read as follows:

Authority: 33 U.S.C. 1903; 46 U.S.C. 3703;
49 CFR 1.46.

§ 151.05–1 [Amended]

15. In § 151.05–1, remove paragraph
(f) and redesignate paragraphs (g)
through (r) as (f) through (q).

16. Following § 151.05–2, revise Table
151.05 to read as follows:

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS

Cargo identification ¹			Cargo segregation tank		Tanks			Cargo transfer		Environmental control		Fire protection required	Special requirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in-stall.	Tank in-internal in-spect. period— years
Cargo name	Pressure	Temp.	Hull type	Cargo segregation tank	Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space					
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.
Acetaldehyde	Press.	Amb.	II	1NA 2ii	Ind. Pressure	SR	Restr.	II	P-1	Inert	Vent F	Yes	.55-1(h)	I-C	NA	G
Acetic acid	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73 .55-1(g)	I-D	NA	G
Acetic anhydride	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73 .55-1(g)	I-D	NA	G
Acetone cyanohydrin	Atmos.	Amb.	I	1ii 2i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-70(b) .50-73 .50-81	I-D	NA	G
Acetonitrile	Atmos.	Amb.	III	1i 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Acrylic acid	Atmos.	Amb.	III	1ii 2ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-73 .50-81 .58-1(a)	I-D	NA	G
Acrylonitrile	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(e) .50-70(a)	I-D	NA	G
Adiponitrile	Atmos.	Amb.	II	1ii 2i	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Alkylbenzenesulfonic acid (<i>greater than 4%</i>)	Atmos.	Elev.	III	1ii 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73 .58-1(e)	I-B	NA	G
Alkyl(C7-C9) nitrates	Atmos.	Amb.	III	1i 2ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-81 .50-86	NA	NA	G
Allyl alcohol	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-C	NA	G
Allyl chloride	Atmos.	Amb.	I	1ii 2ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-D	NA	G
Aluminum sulfate solution	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.58-1(e)	NA	NA	G
Aminoethylethanolamine	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	NA	NA	G
Ammonia, anhydrous	Press.	Amb.	II	1NA 2ii	Ind. Pressure	SR250 p.s.i.	Restr.	II	P-2	NR	Vent F	No	.50-30 .50-32	I-D	NA	G
Ammonia, anhydrous	Atmos.	Low	II	1NA 2ii	Ind. Gravity	PV	Restr.	II-L	G-2	NR	Vent F	No	.50-30 .50-32	I-D	40-1(b)(1)	8
Ammonium bisulfite solution (70% or less)	Atmos.	Amb.	III	1i 2i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73 .56-1(a), (b), (c)	NA	NA	G

Ammonium hydroxide (28% or less NH ₃) ..	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(a), (b), (c), (f), (g)	I-D	NA	G
Aniline	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	G
Anthracene oil (Coal tar fraction)	Atmos.	Amb. Elev.	II	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G
Argon, liquefied	Press.	Low	III	1NA 2 i	Ind. Pressure	SR	Restr.	II-L	P-1	NR	Vent F	No	.40-1(a) .50-30 .50-36	NA	.40-1(a)	G
Benzene	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G
Benzene hydrocarbon mixtures (containing Acetylenes) (having 10% Benzene or more).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60 .56-1(b), (d), (f), (g),	I-D	NA	G
Benzene hydrocarbon mixtures (having 10% Benzene or more).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G
Benzene, Toluene, Xylene mixtures (hav- ing 10% Benzene or more).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-60	I-D	NA	G
Butadiene	Press.	Amb.	II	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-2	NR	Vent F	Yes	.50-70(a) .50-73	I-B	NA	G
Butadiene, Butylene mixtures (containing Acetylenes).	Press.	Amb.	II	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-1	NR	Vent F	Yes	.50-30 .50-70(a) .50-73 .56-1(b), (d), (f), (g)	I-B	NA	G
Butyl acrylate (all isomers)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Butylamine (all isomers)	Atmos.	Amb.	II	1 i 2 i	Ind. Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G
Butyl methacrylate	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Butyraldehyde (all isomers)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G
Camphor oil (light)	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G
Carbolic oil	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	NA	NA	G
Carbon dioxide, liquefied	Press.	Low	III	1NA 2 i	Ind. Pressure	SR	Restr.	I-L	P-1	NR	Vent F	No	.50-30	NA	.40-1(b)(1)	G
Carbon disulfide	Atmos.	Amb.	II	1NA 2 i	Ind. Gravity	PV	Restr.	II	G-1	Inert	Vent F	Yes	.50-40 .50-41	I-A	NA	G
Carbon tetrachloride	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Open	II	G-1	NR	Vent N	No	No	NA	NA	G

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo identification ¹			Hull type	Cargo segregation tank	Tanks			Cargo transfer		Environmental control		Fire protection required	Special requirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in-stall.	Tank in-ternal in-spect. period— years
Cargo name	Pressure	Temp.			Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space					
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.
Cashew nut shell oil (untreated)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-2	NR	Vent N	Yes	.50-73	NA	NA	G
Caustic potash solution	Atmos.	Amb. Elev.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .55-1(i)	NA	NA	G
Caustic soda solution	Atmos.	Amb. Elev.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .55-1(i)	NA	NA	G
Chlorine	Press.	Amb.	I	1NA 2 i i	Ind. Pressure	SR300 p.s.i.	Indirect	I	P-2	NR	Vent F	No	.50-30 .50-31	NA	NA	3
Chlorobenzene	Atmos.	Amb.	III	1 i 2 i i	Integral Gravity	PV	Open	II	G-1	NR	Vent N	Yes	No	I-D	NA	G
Chloroform	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent F	No	No	NA	NA	G
Chlorohydrins (crude)	Atmos.	Amb.	I	1 i i 2 i i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-D	NA	G
o-Chloronitrobenzene	Atmos.	Amb.	I	1 i i 2 i i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	NA	NA	G
Chlorosulfonic acid	Atmos.	Amb.	III	1 i i 2 i i	Integral Gravity	PV	Open	II	G-1	NR	Vent N	No	.50-20 .50-21 .50-73	I-B	NA	G
Coal tar naphtha solvent	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73	I-D	NA	G
Coal tar pitch (molten)	Atmos.	Elev.	III	1 i i 2 i i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73	I-D	NA	G
Creosote	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G
Cresols (all isomers)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G
Cresols with less than 5% Phenol, see Cresols (all isomers).																
Cresols with 5% or more Phenol, see Phenol.																
Cresylate spent caustic	Atmos.	Amb.	III	1 i i 2 i i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73 .55-1(b)	NA	NA	G
Cresylic acid, sodium salt solution, see Cresylate spent caustic.																
Crotonaldehyde	Atmos.	Amb.	II	1 i i 2 i i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G

Cyclohexanone	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b)	I-D	NA	G
Cyclohexanone, Cyclohexanol mixture	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b)	I-D	NA	G
Cyclohexylamine	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b), (c), (g)	I-D	NA	G
Cyclopentadiene, Styrene, Benzene mixture.	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	Open	Open	II	G-1	NR	Vent F	Yes	.50-60 .56-1(b)	I-D	NA	G
iso-Decyl acrylate	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a) .50-81(a), (b) .55-1(c)	NA	NA	G
Dichlorobenzene (all isomers)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(a), (b)	I-D	NA	G
Dichlorodifluoromethane	Press.	Amb.	III	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-1	NR	NR	No	No	NA	NA	G
1,1-Dichloroethane	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
2,2'-Dichloroethyl ether	Atmos.	Amb.	II	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(f)	I-C	NA	G
Dichloromethane	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	I-D	NA	G
2,4-Dichlorophenoxy acetic acid, diethanolamine salt solution.	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.56-1(a), (b), (c), (g)	NA	NA	G
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution.	Atmos.	Amb. Elev.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(a), (b), (c), (g)	NA	NA	G
2,4-Dichlorophenoxyacetic acid, triisopropylamine salt solution.	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.56-1(a), (b), (c), (g)	NA	NA	G
1,1-Dichloropropane	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
1,2-Dichloropropane	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
1,3-Dichloropropane	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
1,3-Dichloropropene	Atmos.	Amb.	II	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Dichloropropene, Dichloropropane mixtures.	Atmos.	Amb.	II	1 i 2 ii	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
2,2-Dichloropropionic acid	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	Dry	Vent F	Yes	.50-73 .58-1(e)	NA	NA	G
Diethanolamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo identification ¹																Special re- quirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in- stall.	Tank in- ternal in- terval— period— years
Cargo name	Pressure	Temp.	Hull type	Cargo segre- gation tank	Tanks			Cargo transfer		Environmental control		Fire protection required							
					Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space								
a.	b.	c.	d.	e.		f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.		
Diethylamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G		
Diethylenetriamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G		
Diethyl ether, see Ethyl ether.																			
Diisobutylamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G		
Diisopropanolamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	NA	NA	G		
Diisopropylamine	Atmos.	Amb.	II	1 i 2 i		Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G		
N,N-Dimethylacetamide	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b)	I-D	NA	G		
Dimethylamine	Press.	Amb.	II	1NA 2 i		Ind. Pressure	SR	Restr.	II	P-2	NR	Vent F	Yes	.55-1(c)	I-C	NA	G		
Dimethylethanolamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b), (c)	I-C	NA	G		
Dimethylformamide	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-D	NA	G		
1,4-Dioxane	Atmos.	Amb.	II	1 i 2 i		Integral Gravity	PV	Closed	II	G-1	Inert	Vent F	Yes	No	I-C	NA	G		
Diphenylmethane diisocyanate	Atmos.	Elev.	II	1 i 2 i		Integral Gravity	PV	Closed	I	G-1	Inert Dry	Vent F	Yes	.50-5 .56-1(a), (b)	NA	Yes	G		
Di-n-propylamine	Atmos.	Amb.	II	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-C	NA	G		
Dodecyl- dimethyl- amine, Tetradecyl- dimethylamine mixture.	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b)	NA	NA	G		
Dodecyl phenol	Atmos.	Amb.	I	1 i 2 i		Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73	I-D	NA	2		
Epichlorohydrin	Atmos.	Amb.	I	1 i 2 i		Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5	I-C	NA	G		
Ethanolamine	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-D	NA	G		
Ethyl acrylate	Atmos.	Amb.	III	1 i 2 i		Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G		

Ethylamine solution (72% or less)	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(b)	I-D	NA	G
N-Ethylbutylamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(b)	I-C	NA	G
Ethyl chloride	Press.	Amb.	II	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-2	NR	Vent F	Yes	No	I-D	NA	8
N-Ethylcyclohexylamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(b)	I-C	NA	G
Ethylene chlorohydrin	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	G
Ethylene cyanohydrin	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G
Ethylenediamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G
Ethylene dibromide	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	No	No	NA	NA	G
Ethylene dichloride	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Ethylene glycol monoalkyl ethers	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-C	NA	G
2-Ethoxyethanol Ethylene glycol butyl ether Ethylene glycol tert-butyl ether Ethylene glycol ethyl ether Ethylene glycol methyl ether Ethylene glycol n-propyl ether Ethylene glycol isopropyl ether																
Ethylene glycol hexyl ether	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G
Ethylene glycol propyl ether	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	No	NA	NA	G
Ethylene oxide	Press.	Amb.	I	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-2	Inert	Vent F	Yes	.50-10 .50-12	I-B	.40-1(c)	4
Ethyl ether	Atmos.	Amb.	II	1NA 2 i	Ind. Gravity	PV	Closed	II	G-1	Inert	Vent F	Yes	.50-40 .50-42	I-C	NA	G
2-Ethylhexyl acrylate	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Ethylidene norbornene	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-5 .50-74	NA	NA	G
Ethyl methacrylate	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a)	I-D	NA	G
2-Ethyl-3-propylacrolein	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-C	NA	G
Ferric chloride solutions	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-20 .50-75	I-B	NA	G

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo identification ¹			Hull type	Cargo segregation tank	Tanks			Cargo transfer		Environmental control		Fire protection required	Special requirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in-stall.	Tank in-terminal inspect. period—years
Cargo name	Pressure	Temp.			Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space					
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.
Fluorosilicic acid (30% or less)	Atmos.	Amb.	II	1 i 2 ii	Ind. Gravity	PV	Closed	II	G-1	NR	Vent F	No	.50-20 .50-22 .50-73 .50-77	I-B	NA	4
Formaldehyde solution (37% to 50%)	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.55-1(h)	I-B	NA	G
Formic acid	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73 .55-1(i)	I-D	NA	G
Furfural	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(h)	I-C	NA	G
Glutaraldehyde solution (50% or less)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	No	NA	NA	G
Glyoxylic acid solution (50% or less)	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73 .50-81 .58-1(e)	NA	NA	G
Hexamethylenediamine solution	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G
Hexamethyleneimine	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.56-1(b), (c)	I-C	NA	G
Hydrochloric acid	Atmos.	Amb.	III	1NA 2 ii	Ind. Gravity	Open	Open	II	G-1	NR	Vent F	No	.50-20 .50-22 .50-73	I-B	NA	4
Hydrofluorosilicic acid (25% or less), see Fluorosilicic acid (30% or less).																
2-Hydroxyethyl acrylate	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-70(a) .50-73 .50-81(a), (b)	NA	NA	G
Isoprene	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Kraft pulping liquors (free alkali content 3% or more) (including: Black, Green, or White liquor).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .56-1(a), (c), (g)	NA	NA	G
Mesityl oxide	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Methylacetylene, Propadiene mixture	Press.	Amb.	III	1 NA 2 ii	Ind. Pressure	SR	Restr.	II	P-2	NR	Vent F	Yes	.50-79	I-C	NA	G

	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G
Methyl acrylate																
Methylamine solution (42% or less)	Atmos.	Amb.	II	1NA 2 ii	Ind. Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.56-1(a), (b), (c), (g)	I-D	NA	G
Methyl bromide	Press.	Amb.	I	1NA 2 ii	Ind. Pressure	SR	Closed	I	P-2	NR	Vent F	Yes	.50-5	I-D	NA	2
Methyl chloride	Press.	Amb.	II	1NA 2 ii	Ind. Pressure	SR	Restr.	II	P-2	NR	Vent F	Yes	.55-1(c)	I-D	NA	8
Methylcyclopentadiene dimer	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-B	NA	G
Methyl diethanolamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b), (c)	I-C	NA	G
2-Methyl-5-ethylpyridine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(e)	I-D	NA	G
Methyl methacrylate	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G
2-Methylpyridine	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G
alpha-Methylstyrene	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a), .50-81(a), (b)	I-D	NA	G
Monochloro- difluoromethane	Press.	Amb.	III	1NA 2 i	Ind. Pressure	SR	Restr.	I	P-1	NR	NR	No	No	NA	NA	G
Morpholine	Atmos.	Amb.	III	1 i 2 ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-C	NA	G
Motor fuel anti-knock compounds (con- taining lead alkyls)	Atmos.	Amb.	I	1 i i 2 ii	Ind. Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-6 .50-73	I-D	NA	.50-6
Nitric acid (70% or less)	Atmos.	Amb.	II	1 i i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-20 .50-73 .50-80	I-B	NA	4
Nitrobenzene	Atmos.	Amb.	I	1 i i 2 ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	G
Nitrogen, liquefied	Press.	Low	III	1NA 2 i	Ind. Pressure	SR	Restr.	II-L	P-1	NR	Vent F	No	.40-1(a) .50-30 .50-36	NA	.40-1(a)	G
1- or 2-Nitropropane	Atmos.	Amb.	III	1 i i 2 ii	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-81	I-C	NA	G
o-Nitrotoluene	Atmos.	Amb.	I	1 i i 2 ii	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	G
Octyl nitrates (all isomers), see Alkyl(C7- C9) nitrates.																
Oleum	Atmos.	Amb.	III	1 i i 2 ii	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-20 .50-21 .50-73	I-B	NA	4

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo identification ¹			Hull type	Cargo segregation tank	Tanks			Cargo transfer		Environmental control		Fire protection required	Special re-quirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in- stall.	Tank in- ternal in- spect. period— years
Cargo name	Pressure	Temp.			Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space					
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.
Pentachloroethane	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G
1,3-Pentadiene	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81	I-D	NA	G
Perchloroethylene	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G
Phenol	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	2
Phosphoric acid	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-20 .50-23 .50-73	I-B	NA	4
Phosphorus, white (elemental)	Atmos.	Elev.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	Water Pad	Vent F	Yes	.50-50	NA	NA	4-8
Phthalic anhydride (molten)	Atmos.	Elev.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
Polyethylene polyamines	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(e)	NA	NA	G
Polymethylene polyphenyl isocyanate	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	Dry	Vent F	Yes	.55-1(e)	NA	NA	G
Potassium hydroxide solution, see Caustic potash solution.																
iso-Propanolamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-D	NA	G
Propanolamine (iso-, n-)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.56-1(b), (c)	I-D	NA	G
Propionic acid	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-73 .55-1(g)	I-D	NA	G
iso-Propylamine	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.55-1(c)	I-D	NA	G
Propylene oxide	Press.	Amb.	II	1NA 2 i	Ind. Pressure	SR	Restr.	II	P-1	Inert	Vent F	Yes	.50-10 .50-13	I-B	NA	G
iso-Propyl ether	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	Inert	Vent F	Yes	.50-70(a)	I-D	NA	G
Pyridine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-D	NA	G
Sodium aluminate solution (45% or less) ...	Atmos.	Amb. Elev.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .56-1(a), (b), (c)	NA	NA	G

Sodium chlorate solution (50% or less)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73	NA	NA	G
Sodium dichromate solution (70% or less)	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	Open	Closed	II	G-1	NR	Vent N	No	.50-5(d) .50-73 .56-1(b), (c)	NA	NA	G
Sodium hydroxide solution, <i>see</i> Caustic soda solution.																
Sodium hypochlorite solution (20% or less)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73 .56-1(a), (b)	NA	NA	G
Sodium sulfide, hydrosulfide solutions (H ₂ S 15ppm or less).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-73 .55-1(b)	NA	NA	G
Sodium sulfide, hydrosulfide solutions (H ₂ S greater than 15ppm but less than 200ppm).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73 .55-1(b)	NA	NA	G
Sodium sulfide, hydrosulfide solutions (H ₂ S greater than 200ppm).	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	No	.50-73 .55-1(b)	NA	NA	G
Sodium thiocyanate solution (56% or less)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.58-1(a)	NA	NA	G
Styrene <i>monomer</i>	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Sulfur (molten)	Atmos.	Elev.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	Vent N	Vent N	Yes	.50-55	I-C	.40- 1(f)(1)	G
Sulfur dioxide	Press.	Amb.	I	1NA 2 i	Ind. Pressure	SR	Closed	.....	P-2	NR	Vent F	No	.50-30 .50-84 .55-1(j)	NA	NA	2
Sulfuric acid	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-20 .50-21 .50-73	I-B	NA	4
Sulfuric acid, spent	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	No	.50-20 .50-21 .50-73	I-B	NA	4
1,1,2,2-Tetrachloroethane	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	NA	NA	G
Tetraethylenepentamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(c)	I-C	NA	G
Tetrahydrofuran	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(b)	I-C	NA	G
Toluenediamine	Atmos.	Elev.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-73 .56-1(a), (b), (c), (g)	NA	NA	G
Toluene diisocyanate	Atmos.	Amb.	I	1 i 2 i	Integral Gravity	PV	Closed	I	G-1	Dry N ₂	Vent F	Yes	.50-5 .55-1(e)	I-D	NA	G
o-Toluidine	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Closed	II	G-1	NR	Vent F	Yes	.50-5 .50-73	I-D	NA	G

TABLE 151.05— SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo identification ¹			Cargo segregation tank		Tanks			Cargo transfer		Environmental control		Fire protection required	Special requirements in 46 CFR Part 151	Electrical hazard class and group	Temp. control in-stall.	Tank in-ternal in-spect. period— years
Cargo name	Pressure	Temp.	Hull type		Type	Vent	Gauging device	Piping class	Control	Cargo tanks	Cargo handling space					
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.
1,2,4-Trichlorobenzene	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	No	I-D	NA	G
1,1,2-Trichloroethane	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.50-73 .56-1(a)	I-D	NA	G
Trichloroethylene	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	No	I-D	NA	G
1,2,3-Trichloropropane	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-73 .56-1(a)	I-D	NA	G
Triethanolamine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	I-C	NA	G
Triethylamine	Atmos.	Amb.	II	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.55-1(e)	I-C	NA	G
Triethylenetetramine	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	Vent N	Yes	.55-1(b)	I-C	NA	G
Triphenylborane (10% or less), Caustic soda solution.	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.56-1(a), (b), (c)	NA	NA	G
Trisodium phosphate solution	Atmos.	Amb. Elev.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .56-1(a), (c)	NA	NA	G
Urea, Ammonium nitrate solution (containing more than 2% NH ₃).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	No	.56-1(b)	I-D	NA	G
Valeraldehyde (all isomers)	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Restr.	II	G-1	Inert	Vent F	Yes	No	I-C	NA	G
Vanillin black liquor (free alkali content 3% or more).	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	Open	Open	II	G-1	NR	NR	No	.50-73 .56-1(a), (c), (g)	NA	NA	G
Vinyl acetate	Atmos.	Amb.	III	1 i 2 i	Integral Gravity	PV	Open	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81(a), (b)	I-D	NA	G
Vinyl chloride	Press.	Amb.	II	1NA 2 i	Ind. Pressure	SR	Closed	II	P-2	NR	Vent F	Yes	.50-30 .50-34	I-D	NA	8
Vinyl chloride	Atmos.	Low	II	1NA 2 i	Ind. Gravity	PV	Closed	II-L	G-2	NR	Vent F	Yes	.50-30 .50-34	I-D	.40-1(b)(1)	8
Vinylidene chloride	Atmos.	Amb.	II	1NA 2 i	Ind. Gravity	PV	Closed	II	P-2	Padded	Vent F	Yes	.55-1(f) .50-70(a) .50-81(a), (b)	I-D	NA	G

Vinyltoluene	Atmos.	Amb.	III	1 i 2 i i	Integral Gravity	PV	Restr.	II	G-1	NR	Vent F	Yes	.50-70(a) .50-81 .56-1(a), (b), (c), (g)	I-D	NA	G
For requirements see these sections in Part 151:.			.10- 1	.13- 5	.15- 1	.15-5	.15- 10	.20- 1	.20- 5	.25-1	.25-2	.30		111.105 (Sub- chapter j)	.40	.04- 5

See Table 2 of Part 153 for additional cargoes permitted to be carried by tankbarge.

Terms and symbols:

Segregation—Tank—

Line 1—Segregation of cargo from surrounding waters:

i=Skin of vessel (single skin) only required. Cargo tank wall can be vessel's hull.

ii=Double skin required. Cargo tank wall cannot be vessel's hull.

Line 2—Segregation of cargo space from machinery spaces and other spaces which have or could have a source of ignition:

i=Single bulkhead only required. Tank wall can be sole separating medium.

ii=Double bulkhead required. Cofferdam, empty tank, pumproom, tank with Grade E Liquid (if compatible with cargo) is satisfactory.

Internal tank inspection—

G—Indicates cargo is subject to general provisions of 151.04-5(b).

Specific numbers in this column are changes from the general provisions.

Abbreviations used:

Tank type: Ind=Independent.

Vent

PV=Pressure vacuum valve.

SR=Safety relief.

Gauging device: Restr.=Restricted.

General usage:

NR=No requirement.

NA=Not applicable.

1. The provisions contained in 46 CFR Part 197, subpart C, apply to liquid cargoes containing 0.5% or more benzene by volume.

§ 151.12-5 [Amended]

17. Amend § 151.12-5 by adding the following new entries in chemically proper alphabetized order:

§ 151.12-5 Equipment for Category D NLS.

* * * * *

Cyclohexanone, Cycexanol mixture

* * * * *

Glyoxylic acid solution (50% or less)

* * * * *

PART 153—SHIPS CARRYING BULK LIQUID, LIQUEFIED GAS, OR COMPRESSED GAS HAZARDOUS MATERIALS

18. The citation of authority for Part 153 continues to read as follows:

Authority: 46 U.S.C. 3703; 49 CFR 1.46. Section 153.40 issued under 49 U.S.C. 5103. Sections 153.470 through 153.491, 153.1100 through 153.1132, and 153.1600 through 153.1608 also issued under 33 U.S.C. 1903(b).

19. Revise Table 1 of part 153 to read as follows:

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Acetic acid	D	S	III	4m	PV	Restr	A	.238(a), .409, .527, .554, .933	I-D
Acetic anhydride	D	S	II	4m	PV	Restr	A	.238(a), .409, .526, .527, .554, .933	I-D
Acetochlor	A	P	II	NR	Open	Open	A	.409	NA
Acetone cyanohydrin	A	S/P	II	B/3	PV	Closed	A	.238(a), .316, .336, .408, .525, .526, .527, .912(a)(2), .933, .1002, .1004, .1020, .1035	I-D
Acetonitrile	III	S	II	B/3	PV	Restr	A	.409, .525, .526, .1020	I-D
Acrylamide solution (50% or less).	D	S	II	NR	Open	Closed	NSR	.409, .525(a), (c), (d), (e), .912(a)(1), .1002(a), .1004, .1020, .933, .1002(a), .1004	NA
Acrylic acid	D	S	III	4m	PV	Restr	A	.238(a), .409, .526, .912(a)(1), .933, .1002(a), .1004	I-D
Acrylonitrile	B	S/P	II	B/3	PV	Closed	A	.236(a), (c), (d), .316, .408, .525, .526, .527, .912(a)(1), .1004, .1020	I-D
Adiponitrile	D	S	III	4m	PV	Restr	A	.526	I-D
Alachlor	B	S/P	III	NR	Open	Open	A, C	.238(a), .409, .440, .488, .908(a), (b)	NA
Alcohol (C6–C17) (secondary) poly(3–6)ethoxylates.	A	P	II	NR	Open	Open	A	.409	NA
Alcohol (C6–C17) (secondary) poly(7–12)ethoxylates.	B	P	III	NR	Open	Open	A	.409, .440, .908(a), (b)	NA
Alcohol(C9–C11) poly(2.5–9) ethoxylate.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
Alcohol(C12–C15) poly(...)ethoxylates, see Alcohol(C12–C16) poly(...)ethoxylates.									
Alcohol(C12–C16) poly(1–6)ethoxylates.	A	P	II	NR	Open	Open	A	.409	NA
Alcohol(C12–C16) poly(7–19)ethoxylates.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
Alcohol(C12–C16) poly(20+)ethoxylates.	C	P	III	NR	Open	Open	A	None	NA
Alkanes(C6–C9) (<i>all isomers</i>).	C	P	III	4m	PV	Restr	A	.409	I-D
Alkane(C14–C17) sulfonic acid, sodium salt solution (65% or less).	B	P	III	NR	Open	Open	NSR	.440, .908(a)	NA
Alkaryl polyether (C9–C20)	B	P	III	NR	Open	Open	A, B	.409; (.440, .908(a)) ¹	NA
Alkenyl(C16–C20) succinic anhydride.	D	S	III	B/3	PV	Closed	NSR	.316, .408, .525, .526, .1020	NA
Alkyl acrylate-Vinyl pyridine copolymer in Toluene.	C	P	III	4m	PV	Restr	A	.409	NA
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer).	A	S/P	I	B/3	PV	Closed	A, B, C	.316, .408, .525, .526, .1020	NA
Alkyl(C3–C4)benzenes (<i>all isomers</i>).	A	P	III	4m	PV	Restr	A	.409	I-D
Alkyl(C5–C8)benzenes (<i>all isomers</i>).	A	P	II	NR	Open	Open	A	.409	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12–C17).	A	P	II	NR	Open	Open	A	.409	NA
Alkylbenzenesulfonic acid (greater than 4%).	C	S/P	III	NR	Open	Open	A, B	.440, .908(a)	NA
Alkylbenzenesulfonic acid, sodium salt solution.	C	P	III	NR	Open	Open	NSR	.440, .903, .908(a), (b)	NA
Alkyl(C7–C9) nitrates	B	S/P	II	NR	Open	Open	A, B	.409, .560, .1002	NA
Alkyl (C7–C11) phenol poly(4-12) ethoxylate.	B	P	III	NR	Open	Open	A	.409, .440, .488 ¹ , .908(a), (b)	I-D
Alkyl(C8–C9) phenylamine in aromatic solvent.	A	P	III	4m	PV	Restr	A	.409	NA
Alkyl(C10–C20, saturated and unsaturated) phosphite.	C	P	III	NR	Open	Open	A	None	NA
Alkyl(C8–C10) polyglucoside solution (65% or less).	C	P	III	NR	Open	Open	NSR	.440, .908(a), (b)	NA
Alkyl(C12–C14) polyglucoside solution (55% or less).	B	P	III	NR	Open	Open	NSR	.409, .440, .908(a), (b)	NA
Alkyl(C8–C10)/(C12–C14): (40% or less/60% or more) polyglucoside solution (55% or less).	B	P	III	NR	Open	Open	NSR	.409, .440, .908(a), (b)	NA
Alkyl(C8–C10)/(C12–C14): (50/50%) polyglucoside solution (55% or less).	C	P	III	NR	Open	Open	NSR	.440, .908(a), (b)	NA
Alkyl(C8–C10)/(C12–C14): (60% or more/40% or less) polyglucoside solution (55% or less).	C	P	III	NR	Open	Open	NSR	.440, .908(a), (b)	NA
Allyl alcohol	B	S/P	II	B/3	PV	Closed	A	.316, .408, .525, .526, .527, .933, .1020.	I-C
Allyl chloride	B	S/P	II	B/3	PV	Closed	A	.316, .408, .525, .526, .527, .1020	I-D
Aluminum chloride (30% or less), Hydrochloric acid (20% or less) solution.	D	S	III	4m	PV	Restr	NSR	.252, .526, .527, .554, .557, .933, .1045, .1052.	I-B
2-(2-Aminoethoxy) ethanol	D	S	III	NR	Open	Open	A, C, D	.236(b), (c), .409	NA
Aminoethylethanolamine ...	D	S	III	NR	Open	Open	A	.236(a), (b), (c), (g)	NA
N-Aminoethylpiperazine	D	S	III	4m	PV	Restr	A	.236(b), (c), .409, .526	I-C
2-Amino-2-methyl-1-propanol (90% or less).	D	S	III	NR	Open	Open	A	.236(a), (b), (c), (g)	I-D
Ammonia aqueous (28% or less), see Ammonium hydroxide (28% or less NH ₃).									
Ammonium bisulfite solution (70% or less).	D	S	III	4m	PV	Restr	No	.238(e), .526, .933, .1002	NA
Ammonium hydroxide (28% or less NH ₃).	C	S/P	III	4m	PV	Restr	A, B, C	.236(b), (c), (f), .526, .527	I-D
Ammonium nitrate solution (greater than 45% and less than 93%).	D	S	II	NR	Open	Open	NSR	.238(d), .252, .336, .409, .554(a), (b).	NA
Ammonium sulfide solution (45% or less).	B	S/P	II	B/3	PV	Closed	A, C	.236(a), (b), (c), (g), .316, .408, .525, .526, .527, .933, .1002, .1020.	I-D
Ammonium thiocyanate (25% or less), Ammonium thiosulfate (20% or less) solution.	C	P	III	NR	Open	Open	NSR	None	NA
Ammonium thiosulfate solution (60% or less).	C	P	III	NR	Open	Open	NSR	.440, .908(b)	NA
Amyl acetate (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
tert-Amyl methyl ether	C	P	III	4m	PV	Restr	A	.409	NA
Aniline	C	S/P	II	B/3	PV	Closed	A	.316, .408, .525, .526, .933, .1020	I-D
Anthracene oil (Coal tar fraction), see Coal tar.									
Aviation alkylates (C8 paraffins and iso-paraffins, b. pt. 95–120 deg. C).	C	P	III	4m	PV	Restr	B	.409	I-C
Barium long chain (C11–C50) alkaryl sulfonate.	B	S/P	II	NR	Open	Open	A, D	.408, .440, .525(a), (c), (e), (d), .908(a), .1020.	NA
Barium long chain alkyl (C8–C14) phenate sulfide.	[A]	P	II	NR	Open	Open	A	.409	NA
Benzene hydrocarbon mixtures ² (having 10% Benzene or more).	C ²	S/P	III	B/3	PV	Closed	A, B	.316, .409, .440, .526, .908(b), .933, .1060.	I-D
Benzenesulfonyl chloride ...	D	S	III	4m	PV	Restr	A, B, D	.236(a), (b), (c), (g), .409, .526	I-D
Benzene, Toluene, Xylene mixtures ² (having 10% Benzene or more).	@C ²	S/P	III	B/3	PV	Closed	B	.316, .409, .440, .526, .908(b), .1060.	I-D
Benzyl acetate	C	P	III	NR	Open	Open	A	None	I-D
Benzyl alcohol	C	P	III	NR	Open	Open	A	None	I-D
Benzyl chloride	B	S/P	II	B/3	PV	Closed	A, B	.316, .408, .525, .526, .527, .912(a)(2), .1004, .1020.	I-D
Bromochloromethane	D	S	III	4m	PV	Restr	NSR	.236(a), (b), (d), .526, .933	NA
Butene oligomer	B	P	III	NR	Open	Open	A	.409	NA
Butyl acetate (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D
Butyl acrylate (all isomers)	B	S/P	II	4m	PV	Restr	A	.409, .526, .912(a)(1), .1002(a), (b), .1004.	I-D
Butylamine (all isomers)	C	S/P	II	B/3	PV	Restr	A	.236(b), (c), .316, .408, .525, .526, .527, .1020.	I-D
Butylbenzene (all isomers), see Alkyl(C3–C4)benzenes (all isomers).	A	P	III	4m	PV	Restr	A	.409	I-D
Butyl benzyl phthalate n-Butyl butyrate, see Butyl butyrate (all isomers).	A	P	II	NR	Open	Open	A	.409	I-D
Butyl butyrate (all isomers)	B	P	III	4m	PV	Restr	A	.409	I-D
1,2-Butylene oxide	C	S/P	III	4m	PV	Restr	A, C	.372, .409, .440, .500, .526, .530(a), (c), (e)–(g), (m)–(o), .1010, .1011.	I-B
n-Butyl ether	C	S/P	III	B/3	PV	Restr	A, D	.409, .500, .525, .526, .1020	I-C
Butyl heptyl ketone iso-Butyl isobutyrate, see Butyl butyrate (all isomers).	[C]	P	III	NR	Open	Open	A	None	NA
Butyl methacrylate	D	S	III	4m	PV	Restr	A, D	.409, .526, .912(a)(1), .1002(a), (b), .1004.	I-D
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture.	D	S	III	4m	PV	Restr	A, C, D	.912(a)(1), .1002(a), (b), .1004	I-D
n-Butyl propionate	C	P	III	4m	PV	Restr	A	.409	I-D
Butyl toluene	@A	P	II	NR	Open	Open	A	.409	I-D
Butyraldehyde (all isomers)	C	S/P	III	4m	PV	Restr	A	.409, .526	I-C
Butyric acid	D	S	III	4m	PV	Restr	A	.238(a), .554	I-D
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture. Calcium bromide, Zinc bromide solution, see Drilling brine (containing Zinc salts).	A	P	II	NR	Open	Open	A, B	.409	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Calcium hypochlorite solution (15% or less).	C	S/P	III	4m	PV	Restr	NSR	.236(a), (b)	NA
Calcium hypochlorite solution (more than 15%).	B	S/P	III	4m	PV	Restr	NSR	.236(a), (b), .409	NA
Calcium long chain alkyl(C5–C10) phenate.	C	P	III	NR	Open	Open	A	None	NA
Calcium long chain alkyl salicylate (C13+).	C	P	III	NR	Open	Open	A, B	(.440, .903, .908(a)) ¹	NA
Camphor oil	B	S/P	II	4m	PV	Restr	A, B	.409	I-D
Carbolic oil	A	S/P	II	B/3	PV	Closed	A	.408, .440, .525, .526, .908(b), .933, .1020.	NA
Carbon disulfide	B	S/P	II	B/3	PV	Closed	C	.236(c), .252, .408, .500, .515, .520, .525, .526, .527, .1020, .1040.	I-A
Carbon tetrachloride	B	S/P	III	B/3	PV	Closed	NSR	.316, .409, .525, .526, .527, .1020	NA
Cashew nut shell oil (untreated).	D	S	III	4m	PV	Restr	A, B	.526, .933	NA
Caustic potash solution	C	S/P	III	NR	Open	Open	NSR	.236(a), (c), (g), .933	NA
Caustic soda solution	D	S	III	NR	Open	Open	NSR	.236(a), (c), (g), .933	NA
Cetyl-Eicosyl methacrylate mixture.	III	S	III	NR	Open	Open	A, C, D	.912(a)(1), .1002(a), (b), .1004	NA
Chlorinated paraffins (C10–C13).	A	P	I	NR	Open	Open	A	.408	NA
Chloroacetic acid (80% or less).	C	S/P	II	B/3	PV	Closed	NSR	.238(e), .408, .440, .554, .908(b) ...	I-D
Chlorobenzene	B	S/P	III	4m	PV	Restr	A, B	.409, .526	I-D
Chloroform	B	S/P	III	B/3	PV	Restr	NSR	.409, .525, .526, .527, .1020	NA
(crude) Chlorohydrins	D	S	II	B/3	PV	Closed	A	.408, .525, .526, .1020	I-D
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution.	C	P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g)	NA
o-Chloronitrobenzene	B	S/P	II	B/3	PV	Closed	A, B, C, D	.316, .336, .408, .440, .525, .526, .908(a), (b), .933, .1020.	NA
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one.	B	P	III	NR	Open	Open	A, B, D	.409, .440, .488, .908(a), (b)	NA
2- or 3-Chloropropionic acid.	C	S/P	III	NR	Open	Open	A	.238(a), (b), .440, .554, .908(a), (b)	NA
Chlorosulfonic acid	C	S/P	I	B/3	PV	Closed	NSR	.408, .525, .526, .527, .554, .555, .602, .933, .1000, .1020, .1045.	I-B
o-Chlorotoluene	A	S/P	III	4m	PV	Restr	A, B, C	.409, .526	I-D
m-Chlorotoluene	B	S/P	III	4m	PV	Restr	A, B, C	.409, .526	I-D
p-Chlorotoluene	B	S/P	II	4m	PV	Restr	A, B, C	.409, .440, .526, .908(b)	I-D
Chlorotoluenes (mixed isomers).	A	S/P	II	4m	PV	Restr	A, B, C	.409, .526	I-D
Coal tar	A	S/P	II	4m	PV	Restr	B, D	.409, .933, .1060	I-D
Coal tar naphtha solvent ...	B	S/P	III	4m	PV	Restr	A, D	.409, .526, .933, .1060	I-D
Coal tar pitch (molten)	D	S	III	4m	PV	Restr	B, D	.252, .409, .933, .1060	I-D
Cobalt naphthenate in solvent naphtha.	A	S/P	II	4m	PV	Restr	A, D	.409, .526	I-D
Coconut oil, fatty acid	C	P	III	NR	Open	Open	A	.440, .903, .908(a), (b)	NA
Cottonseed oil, fatty acid ...	[C]	P	III	NR	Open	Open	A	.440, .903, .908(a)	NA
Creosote (coal tar)	A	S/P	II	NR	Open	Open	A, B, D	.409	I-D
Creosote (wood)	A	S/P	II	NR	Open	Open	A, B, D	.409	NA
Cresols (all isomers)	A	S/P	II	NR	Open	Open	A, B	.409, .440, .908(b)	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
<i>Cresols with less than 5% Phenol, see Cresols (all isomers)</i>									
<i>Cresols with 5% or more Phenol, see Phenol</i>									
Cresylate spent caustic (mixtures of Cresols and Caustic soda solutions).	A	S/P	II	NR	Open	Open	NSR	.236(a), (c), .409, .933	NA
Cresylic acid, dephenolized	A	S/P	II	NR	Open	Open	A, B	.409	NA
Cresylic acid, sodium salt solution, see Cresylate spent caustic.									
Crotonaldehyde	A	S/P	II	B/3	PV	Restr	A	.316, .409, .525, .526, .527, .1020	I-C
Cumene (isopropylbenzene), see Propylbenzene (all isomers).									
1,5,9-Cyclododecatriene	A	S/P	I	4m	PV	Restr	A	.236(b), (c), .408, .526, .912(a)(1), .1002(a), (b), .1004.	I-D
Cycloheptane	C	P	III	4m	PV	Restr	A	.409	I-D
Cyclohexane	C	P	III	4m	PV	Restr	A	.409, .440, .908(b)	I-D
Cyclohexanone	D	S	III	4m	PV	Restr	A	.236(a), (b), .409, .526	I-D
Cyclohexanone, Cyclohexanol mixture.	D	S	III	4m	PV	Restr	A	.236(a), (b), .526	I-D
Cyclohexyl acetate	B	P	III	4m	PV	Restr	A	.409	I-D
Cyclohexylamine	C	S/P	III	4m	PV	Restr	A, C, D	.236(a), (b), (c), (g), .409, .526	I-D
1,3-Cyclopentadiene dimer (molten).	B	P	II	4m	PV	Restr	A	.409, .440, .488, .908(a), (b)	I-C
Cyclopentane	C	P	III	4m	PV	Restr	A	.409	I-D
Cyclopentene	B	P	III	4m	PV	Restr	A	.409	I-D
p-Cymene	C	P	III	4m	PV	Restr	A	.409	I-D
iso-Decaldehyde	@C	P	III	NR	Open	Open	A	None	I-C
n-Decaldehyde	@B	P	III	NR	Open	Open	A	None	I-C
Decanoic acid	C	P	III	NR	Open	Open	A	.440, .903, .908(a), (b)	NA
Decene	B	P	III	4m	PV	Restr	A	.409	I-D
Decyl acetate	B	P	III	NR	Open	Open	A	.409	NA
(iso-, n-) Decyl acrylate	A	S/P	II	NR	Open	Open	A, C, D	.236(a), (b), (c), .409, .912(a)(1), .1002(a), (b), .1004.	I-D
Decyl alcohol (all isomers)	B	P	III	NR	Open	Open	A	.409, .440, .908(b)	I-D
Decyloxytetrahydrothiophene dioxide.	A	S/P	II	B/3	PV	Restr	A	.409, .526	NA
Dibromomethane	C	S/P	II	4m	PV	Restr	NSR	.236(a), (b), (d), .408, .525(a), (c), (d), (e), .526, .933, .1020.	NA
Dibutylamine	C	S/P	III	4m	PV	Restr	A, B, C, D	.236(b), (c), .409, .526	I-C
Dibutyl hydrogen phosphonate.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
ortho-Dibutyl phthalate	A	P	II	NR	Open	Open	A	.409	I-D
Dichlorobenzene (all isomers) ¹ .	B	S/P	II	4m	PV	Restr	A, B, D	.236(a), (b), .409, .440, .488 ¹ , .526, .908(a), (b) ¹ .	I-D
3,4-Dichloro-1-butene	B	S/P	III	B/3	PV	Closed	A, B, C	.316, .409, .525(a), (c), (d), (e), .526, .527, .933, .1020.	I-D
1,1-Dichloroethane	D	S	III	4m	PV	Restr	A, B	.409, .526, .527	I-D
2,2'-Dichloroethyl ether	B	S/P	II	4m	PV	Restr	A	.236(a), (b), .409, .526	I-C
1,6-Dichlorohexane	B	S/P	II	4m	PV	Restr	A, B	.409, .526	NA
2,2'-Dichloroisopropyl ether	C	S/P	II	B/3	PV	Restr	A, B, C, D	.236(a), (b), .316, .408(a), .440, .525, .526, .1020.	I-D
Dichloromethane	D	S	III	4m	PV	Restr	NSR	.526	I-D
2,4-Dichlorophenol ⁴	A	S/P	II	4m	PV	Restr	A, B, C, D	.236(a), (b), (c), (g), .409, .440, .500, .501, .526, .908(b), .933.	I-D
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution.	A	S/P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .409	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution.	A	S/P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .409	NA
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution.	A	S/P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .409	NA
1,1-Dichloropropane	C	S/P	II	B/3	PV	Restr	A, B	.409, .525, .526, .1020	I-D
1,2-Dichloropropane	C	S/P	II	B/3	PV	Restr	A, B	.409, .525, .526, .1020	I-D
1,3-Dichloropropane	D	S	II	B/3	PV	Restr	A, B	.409, .525, .526, .1020	I-D
1,3-Dichloropropene	B	S/P	II	B/3	PV	Closed	A, B	.316, .336, .408, .525, .526, .527, .1020.	I-D
Dichloropropene, Dichloropropane mixtures.	B	S/P	II	B/3	PV	Closed	A, B, C, D	.316, .336, .408, .526, .527	I-D
2,2-Dichloropropionic acid	D	S	III	4m	PV	Restr	A	.238(e), .266, .500, .501, .554, .933	NA
Diethanolamine	D	S	III	NR	Open	Open	A	.236(b), (c)	NA
Diethylamine	C	S/P	III	B/3	PV	Restr	A	.236(a), (b), (c), (g), .409, .525, .526, .527, .1020.	I-C
Diethylaminoethanol, <i>see</i> Diethylethanolamine									
2,6-Diethylaniline	C	S/P	III	NR	Open	Open	B, C, D	.236(b), .409, .440, .908(b)	NA
Diethylbenzene	A	P	III	4m	PV	Restr	A	.409	I-D
Diethylenetriamine	D	S	III	NR	Open	Open	A	.236(b), (c)	NA
Diethylethanolamine	C	S/P	III	4m	PV	Restr	A, C	.236(a), (b), (c), (g), .409, .526	I-C
Diethyl ether, <i>see</i> Ethyl ether									
Di-(2-ethylhexyl) phosphoric acid.	C	S/P	III	NR	Open	Open	A, B, C, D	.236(b), (c)	I-D
Diethyl phthalate	C	P	III	NR	Open	Open	A	None	I-D
Diethyl sulfate	B	S/P	II	4m	PV	Closed	A, D	.236(a), (c), (d), .409, .526, .933	I-D
Diglycidyl ether of Bisphenol A.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
Diglycidyl ether of Bisphenol F.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
Di-n-hexyl adipate	B	P	III	NR	Open	Open	A	.409	NA
Diisobutylamine	C	S/P	II	4m	PV	Restr	A, B, C, D	.236(a), (b), (c), (g), .409, .525(a), (c), (d), (e), .526, .1020.	I-C
Diisobutylcarbinol	@C	P	III	NR	Open	Open	A	None	I-D
Diisobutylene	B	P	III	4m	PV	Restr	A	.409	I-D
Diisobutyl phthalate	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	I-D
Diisopropanolamine	C	S/P	III	NR	Open	Open	A	.236(b), (c), .440, .908(a), (b)	I-D
Diisopropylamine	C	S/P	II	B/3	PV	Closed	A	.236(b), (c), .408, .525, .526, .527, .1020.	I-C
Diisopropylbenzene (all isomers).	A	P	II	NR	Open	Open	A	.409	I-D
N,N-Dimethylacetamide	D	S	III	B/3	PV	Restr	B	.236(b), .316, .525, .526, .527, .1020.	I-D
N,N-Dimethylacetamide solution (40% or less).	D	S	III	B/3	PV	Restr	B	.236(b), .316, .526	I-D
Dimethyl adipate	B	P	III	NR	Open	Open	A	.409, .440, .908(b)	NA
Dimethylamine solution (45% or less).	C	S/P	III	B/3	PV	Restr	A, C, D	.236(a), (b), (c), (g), .409, .525, .526, .527, .1020.	I-C
Dimethylamine solution (over 45% but not over 55%).	C	S/P	II	B/3	PV	Closed	A, C, D	.236(a), (b), (c), (g), .316, .408, .525, .526, .527, .1020.	I-C
Dimethylamine solution (over 55% but not over 65%).	C	S/P	II	B/3	PV	Closed	A, C, D	.236(a), (b), (c), (g), .316, .372, .408, .525, .526, .527, .1020.	I-C
2,6-Dimethylaniline	[C]	S/P	III	NR	Open	Open	B, C, D	.236(b), .409, .440, .908(b)	I-D
N,N-Dimethylcyclohexylamine.	C	S/P	II	B/3	PV	Restr	A, C	.236(a), (b), (c), (g), .316, .409, .525, .526, .527, .1020.	NA
N,N-Dimethyldodecylamine	A	S/P	I	NR	Open	Open	B	.236(b), .408	NA
Dimethylethanolamine	D	S	III	4m	PV	Restr	A, D	.236(b), (c), .409, .526	I-C

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Dimethylformamide	D	S	III	4m	PV	Restr	A, D	.236(b), .409, .526	I-D
Dimethyl glutarate	C	P	III	NR	Open	Open	A	None	NA
Dimethyl hydrogen phosphite.	B	S/P	III	4m	PV	Restr	A, D	.526	NA
Dimethyl naphthalene sulfonic acid, sodium salt solution.	[A]	P	III	NR	Open	Open	NSR	.409	NA
Dimethyloctanoic acid	C	P	III	NR	Open	Open	A	.440, .903, .908(b)	I-D
Dimethyl phthalate	C	P	III	NR	Open	Open	A	None	I-D
Dimethyl succinate	C	P	III	NR	Open	Open	A	.440, .908(b)	NA
Dinitrotoluene (molten)	A	S/P	II	B/3	PV	Closed	A	.316, .408, .525, .526, .527, .1003, .1020.	I-C
1,4-Dioxane	D	S	II	B/3	PV	Closed	A	.408, .525, .526, .1020	I-C
Dipentene	C	P	III	4m	PV	Restr	A	.409	I-D
Diphenyl	A	P	I	NR	Open	Open	B	.408	I-D
Diphenylamine (molten)	B	P	III	NR	Open	Open	B, D	.236(b), .409, .440, .488, .908(b) ...	NA
Diphenylamines, alkylated	A	P	II	NR	Open	Open	A	.409	NA
Diphenylamine, reaction product with 2,2,4-Trimethylpentene.	A	S/P	I	NR	Open	Open	A	.408	NA
Diphenyl, Diphenyl ether mixtures.	A	P	I	NR	Open	Open	B	.408	I-D
Diphenyl ether	A	P	III	NR	Open	Open	A	.409	I-D
Diphenyl ether, Biphenyl phenyl ether mixture.	A	P	III	NR	Open	Open	A, B	.409	NA
Diphenylmethane diisocyanate ⁶ .	B	S/P	II	B/3	PV	Closed	A, B, C ⁶ , D	.236(a), (b), .316, .409, .440, .500, .501, .525, .526, .602, .908(a), .1000, .1020.	NA
Diphenylol propane-epichlorohydrin resins.	B	P	III	NR	Open	Open	A, B	.409, .440, .908(a)	NA
Di-n-propylamine	C	S/P	III	4m	PV	Restr	A	.236(b), (c), .409, .525, .526, .1020	I-C
Dithiocarbamate ester (C7–C35).	A	P	II	NR	Open	Open	A, D	.409	NA
Dodecanol	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(a), (b)	I-D
Dodecene (all isomers)	B	P	III	NR	Open	Open	A	.409	I-D
Dodecyl alcohol, see Dodecanol.									
Dodecylamine, Tetradecylamine mixture.	A	S/P	II	4m	PV	Restr	A, D	.236(b), (c), .409, .526	NA
Dodecyl dimethylamine, Tetradecyl dimethylamine mixture.	A	S/P	II	NR	Open	Open	B, C, D	.236(b), .409	NA
Dodecyl diphenyl ether disulfonate solution.	A	S/P	II	NR	Open	Open	NSR	.409	NA
Dodecyl hydroxypropyl sulfide.	A	P	I	NR	Open	Open	A	.408	NA
Dodecyl methacrylate	III	S	III	NR	Open	Open	A, C	.236(b), (c), .912(a)(1), .1004	I-D
Dodecyl-Octadecyl methacrylate mixture.	D	S	III	NR	Open	Restr	A, D	.236(b), .912(a)(1), .1002(a), (b), .1004.	NA
Dodecyl-Pentadecyl methacrylate mixture.	III	S	III	NR	Open	Open	A, C, D	.912(a)(1), .1002(a), (b), .1004	NA
Dodecyl phenol	A	P	I	NR	Open	Open	A	.408	I-D
Drilling brine (containing Zinc salts).	B	P	III	NR	Open	Open	NSR	.409	NA
Epichlorohydrin	A	S/P	II	B/3	PV	Closed	A	.316, .408, .525, .526, .527, .1020	I-C
Ethanolamine	D	S	III	NR	Open	Open	A	.236(b), (c), .526	I-D
2-Ethoxyethyl acetate	C	P	III	4m	PV	Restr	A	.409	I-C
Ethyl acrylate	A	S/P	II	4m	PV	Restr	A	.409, .526, .527, .912(a)(1), .1002(a), (b), .1004.	I-D
Ethylamine	C	S/P	II	B/3	PV	Closed	C, D	.236(b), (c), .252, .372, .409, .525, .526, .527, .1020.	I-D
Ethylamine solution (72% or less).	C	S/P	II	B/3	PV	Closed	A, C	.236(a), (b), (c), (g), .372, .408, .525(a), (c), (d), (e), .526, .527, .1020.	I-D
Ethyl amyl ketone	C	P	III	4m	PV	Restr	A	.409	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Ethylbenzene	B	P	III	4m	PV	Restr	A	.409	I-D
N-Ethylbutylamine	C	S/P	III	4m	PV	Restr	A	.236(a), (b), (c), (g), .409, .525(a), (c), (d), (e), .526, .1020.	I-C
Ethyl tert-butyl ether	C	P	III	4m	PV	Restr	A	.409	I-C
Ethyl butyrate	C	P	III	4m	PV	Restr	A	.409	I-D
Ethylcyclohexane	C	P	III	4m	PV	Restr	A	.409	I-D
N-Ethylcyclohexylamine	D	S	III	4m	PV	Restr	A, C	.236(a), (b), (c), (g), .409, .526	I-C
S-Ethyl dipropylthiocarbamate.	C	P	III	NR	Open	Open	A	None	NA
Ethylene chlorohydrin	C	S/P	II	B/3	PV	Closed	A, D	.316, .408, .525, .526, .527, .933, .1020.	I-D
Ethylene cyanohydrin	D	S	III	NR	Open	Open	A	None	NA
Ethylenediamine	C	S/P	II	4m	PV	Restr	A	.236(b), (c), .409, .440, .526, .908(b).	I-D
Ethylene dibromide	B	S/P	II	B/3	PV	Closed	NSR	.408, .440, .525, .526, .527, .908(b), .1020.	NA
Ethylene dichloride	B	S/P	II	4m	PV	Restr	A, B	.236(b), .408, .526	I-D
Ethylene glycol butyl ether acetate.	C	P	III	NR	Open	Open	A	None	I-C
Ethylene glycol diacetate ...	C	P	III	NR	Open	Open	A	None	I-D
<i>Ethylene glycol ethyl ether acetate, see 2-Ethoxyethyl acetate</i>									
Ethylene glycol methyl ether acetate.	C	P	III	NR	Open	Open	A	None	I-C
Ethylene glycol monoalkyl ether.	D	S	III	4m	PV	Restr	A	.409	I-C
<i>Including:</i> <i>2-Ethoxyethanol</i> <i>Ethylene glycol butyl ether</i> <i>Ethylene glycol tert-butyl ether</i> <i>Ethylene glycol ethyl ether</i> <i>Ethylene glycol hexyl ether</i> <i>Ethylene glycol methyl ether</i> <i>Ethylene glycol n-propyl ether</i> <i>Ethylene glycol isopropyl ether</i>									
Ethylene oxide (30% or less), Propylene oxide mixture.	C	S/P	II	B/3	PV	Closed	A, C	.252, .372, .408, .440, .500, .525, .526, .530, .1010, .1011, .1020.	I-B
Ethyl ether	III	S	II	4m	PV	Closed	A	.236(g), .252, .372, .408, .440, .500, .515, .526, .527.	I-C
Ethyl-3-ethoxypropionate ...	C	P	III	4m	PV	Restr	A	.409	NA
2-Ethylhexanol	@C	P	III	NR	Open	Open	A	None	I-D
2-Ethylhexyl acrylate	B	S/P	III	NR	Open	Open	A	.409, .912(a)(1), .1002(a), (b), .1004.	I-D
2-Ethylhexylamine	B	S/P	II	B/3	PV	Restr	A	.236(b), (c), .409, .525, .526, .1020	I-D
Ethyl hexyl phthalate	C	P	III	NR	Open	Open	A	None	NA
Ethylidene norbornene	B	S/P	III	B/3	PV	Restr	A, B, C, D	.236(b), .409, .526	NA
Ethyl methacrylate	D	S	III	4m	PV	Restr	A, B, D	.409, .526, .912(a)(1), .1002(a), (b), .1004.	I-D
Ethylphenol	A	S/P	III	NR	Open	Open	B	.409	I-D
2-Ethyl-3-propylacrolein	A	S/P	III	4m	PV	Restr	A	.409, .526	I-C
Ethyl toluene	B	P	III	4m	PV	Restr	A	.409	I-D
Ferric chloride solutions	C	S/P	III	NR	Open	Open	NSR	.409, .440, .554, .555, .908(b), .1045.	I-B
Ferric nitrate, Nitric acid solution.	C	S/P	II	4m	PV	Restr	NSR	.408, .526, .527, .554, .555, .559, .933, .1045.	I-B

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Fluorosilicic acid (30% or less).	C	S/P	III	B/3	PV	Restr	NSR	.252, .526, .527, .554, .555, .933, .1045.	I-B
Formaldehyde (50% or more), Methanol mixtures.	#	S/P	III	4m	PV	Closed	A	.409, .526, .527	I-B
Formaldehyde solution (37% to 50%).	C	S/P	III	4m	PV	Restr	A	.409, .440, .526, .527, .908(b)	I-B
Formic acid	D	S	III	4m	PV	Restr	A	.238(b), (c), .409, .526, .527, .554, .933.	I-D
Fumaric adduct of rosin, water dispersion.	B	P	III	NR	Open	Open	NSR	.409, .440, .908(a)	NA
Furfural	C	S/P	III	4m	PV	Restr	A	.409, .526	I-C
Furfuryl alcohol	C	P	III	NR	Open	Open	A	None	I-C
Glutaraldehyde solution (50% or less).	D	S	III	NR	Open	Open	NSR	None	NA
Glycidyl ester of C10 Trialkyl acetic acid, <i>see</i> Glycidyl ester of Tridecyl acetic acid.									
Glycidyl ester of Tridecyl acetic acid.	B	P	III	NR	Open	Open	A	.409	NA
Glyoxylic acid solution (50% or less).	D	S	III	NR	Open	Open	A, C, D	.238(e), .554(a), (b), (c), .933, .1002.	NA
Heptane (all isomers), <i>see</i> Alkanes(C6–C9) (<i>all isomers</i>).	C	P	III	4m	PV	Restr	A	.409	I-D
Heptanol (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D
Heptene (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D
Heptyl acetate	B	P	III	NR	Open	Open	A	.409	NA
Hexamethylenediamine (molten).	C	S/P	II	B/3	PV	Closed	C	.236(a), (b), (c), (g), .316, .336, .409, .440, .525, .526, .527, .908(a), (b), .933, .1020.	NA
Hexamethylenediamine solution.	C	S/P	III	4m	PV	Restr	A	.236(b), (c), .409, .440, .526, .908(b).	I-D
Hexamethylene diisocyanate ⁶ ..	B	S/P	II	B/3	PV	Closed	A, C ⁶ , D	.238(d), .252, .316, .336, .408, .500, .501, .525, .526, .527, .602, .1000, .1020.	NA
Hexamethyleneimine	C	S/P	II	4m	PV	Restr	A, C	.236(a), (b), (c), (g), .409, .526	I-C
Hexane (all isomers), <i>see</i> Alkanes(C6–C9).	C	P	III	4m	PV	Restr	A	.409	I-D
Hexene (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D
Hexyl acetate	B	P	III	4m	PV	Restr	A	.409	I-D
Hydrochloric acid	D	S	III	4m	PV	Restr	NSR	.252, .526, .527, .554, .557, .933, .1045, .1052.	I-B
Hydrogen peroxide solutions (over 8% but not over 60%).	C	S/P	III	B/3	PV	Closed	NSR	.238(a), (c), .355, .409, .440(a)(1)&(2), .500, .933, .1004(a)(2), .1500.	NA
Hydrogen peroxide solutions (over 60% but not over 70%).	C	S/P	II	B/3	PV	Closed	NSR	.238(a), (c), .355, .409, .440(a)(1)&(2), .500, .933, .1004(a)(2), .1500.	NA
2-Hydroxyethyl acrylate	B	S/P	II	B/3	PV	Closed	A	.408, .525, .526, .912(a)(1), .933, .1002(a), (b), .1004, .1020.	NA
N,N-bis(2-Hydroxyethyl) oleamide.	B	P	II	4m	PV	Restr	A	.409, .440, .488, .908(a), (b)	NA
2-Hydroxy-4-(methylthio)butanoic acid.	C	P	III	NR	Open	Open	A	.440, .903, .908(a)	NA
<i>alpha</i> -hydro-omega-Hydroxytetradeca(oxytetramethylene), <i>see</i> Poly(tetramethylene ether) glycols (mw 950-1050).									
Icosa (oxypropane-2,3-diy)l.s.	B	P	III	NR	Open	Open	A	.409, .440, .908(a)	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Isophorone diamine	D	S	III	4m	PV	Restr	A	.236(b), (c), .526	NA
Isophorone diisocyanate ⁶	B	S/P	II	B/3	PV	Closed	A, B, C ⁶ , D	.236(a), (b), .316, .409, .500, .501, .525, .526, .602, .1000, .1020.	NA
Isoprene	C	S/P	III	4m	PV	Restr	B	.372, .409, .440, .912(a)(1), .1002(a), (b), .1004.	I-D
<i>Isopropylbenzene, see</i> Propylbenzene (all isomers)									
Lactonitrile solution (80% or less).	B	S/P	II	B/3	PV	Closed	A, C, D	.238(d), .252, .316, .336, .408, .440, .525, .526, .527, .908(a), .912(a)(2), .1002, .1004, .1020, .1035.	I-D
Lauric acid	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(a), (b)	NA
Lauryl polyglucose (50% or less), <i>see</i> Alkyl(C12–C14) polyglucoside solution (55% or less).									
Long chain alkaryl polyether (C11–C20).	C	P	III	NR	Open	Open	A, B	(.440, .903, .908(a)) ¹	NA
Long chain polyetheramine in alkyl(C2–C4)benzenes.	C	P	III	4m	PV	Restr	A	.409, .440, .903, .908(a)	I-D
Magnesium long chain alkyl salicylate (C11+).	C	P	III	NR	Open	Open	A, B	(.440, .903, .908(a)) ¹	NA
Maleic anhydride ⁷	D	S	III	4m	PV	Restr	⁷ A, C	None	I-D
Mercaptobenzothiazol, sodium salt solution, <i>see</i> Sodium-2-mercaptobenzothiazol solution									
Mesityl oxide	D	S	III	4m	PV	Restr	A	.236(b), (c), .409, .526	I-D
Metam sodium solution	A	S/P	II	NR	Open	Open	NSR	.236(a), (b), (c), (g), .409	NA
Methacrylic acid	D	S	III	4m	PV	Restr	A	.238(a), .526, .912(a)(1), .1002(a), .1004.	NA
Methacrylic resin in Ethylene dichloride.	B	S/P	II	4m	PV	Restr	A, B	.236(b), .408, .440, .526, .908(a) ...	I-D
Methacrylonitrile	D	S	II	B/3	PV	Closed	A	.236(b), .316, .408, .525, .526, .527, .912(a)(1), .1002(a), .1004, .1020.	NA
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide, <i>see</i> Metolachlor									
Methyl acrylate	B	S/P	II	4m	PV	Restr	A, B	.409, .526, .527, .912(a)(1), .1002(a), (b), .1004.	I-D
Methylamine solution (42% or less).	C	S/P	II	B/3	PV	Closed	A, C, D	.236(a), (b), (c), (g), .316, .408, .525, .526, .527, .1020.	I-D
Methylamyl acetate	C	P	III	4m	PV	Restr	A	.409	I-D
Methylamyl alcohol	C	P	III	4m	PV	Restr	A	.409	I-D
Methyl butyrate	C	P	III	4m	PV	Restr	A	.409	I-D
Methylcyclohexane	C	P	III	4m	PV	Restr	A	.409	I-D
Methylcyclopentadiene dimer.	B	P	III	4m	PV	Restr	B	.409	I-B
Methyl diethanolamine	D	S	III	NR	Open	Open	A	.236(b), (c)	I-C
<i>Methylene chloride, see</i> Dichloromethane									
2-Methyl-6-ethylaniline	C	S/P	III	NR	Open	Open	A, B, C, D	None	NA
2-Methyl-5-ethylpyridine	B	S/P	III	NR	Open	Open	A, D	.236(b), .409	I-D
Methyl formate	D	S	II	B/3	PV	Restr	A	.372, .408, .440, .525, .526, .527, .1020.	I-D
Methyl heptyl ketone	B	P	III	4m	PV	Restr	A	.409	I-D
2-Methyl-2-hydroxy-3-butyne.	III	S	III	4m	PV	Restr	A, B, C, D	.236(b), (d), (f), (g), .409, .526	I-D
Methyl methacrylate	D	S	II	4m	PV	Restr	A, B	.409, .526, .912(a)(1), .1002(a), (b), .1004.	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Methyl naphthalene (molten). 2-Methyl-1-pentene (<i>Hexene (all isomers)</i>), see Alkanes(C6–C9). 4-Methyl-1-pentene (<i>Hexene (all isomers)</i>), see Alkanes(C6–C9). Methyl tert-pentyl ether, see tert-Amyl methyl ether.	A	S/P	II	4m	PV	Restr	A, D	.409	I-D
2-Methylpyridine	D	S	II	B/3	PV	Closed	A, C	.236(b), .408, .525(a), (c), (d), (e), .1020.	I-D
3-Methylpyridine	C	S/P	II	B/3	PV	Closed	A, C	.236(b), .408, .525(a), (c), (d), (e), .1020.	I-D
4-Methylpyridine	D	S	II	B/3	PV	Closed	A, C, D	.236(b), .408, .440, .525(a), (c), (d), (e), .526, .908(b), .1020.	I-D
Methyl salicylate	B	P	III	NR	Open	Open	A	.409	I-D
alpha-Methylstyrene	A	S/P	III	4m	PV	Restr	A, D	.409, .526, .912(a)(1), .1002(a), (b), .1004.	I-D
3-(Methylthio) propionaldehyde.	B	S/P	III	B/3	PV	Closed	B, C	.238(e), .316, .408, .525, .526, .527, .1020.	NA
Metolachlor	B	P	III	NR	Open	Open	A	.409	NA
Morpholine	D	S	III	4m	PV	Restr	A	.236(b), (c), .409	I-C
Motor fuel anti-knock compounds (containing lead alkyls).	A	S/P	I	B/3	PV	Closed	A, B, C	.252, .316, .336, .408, .525, .526, .527, .933, .1020, .1025.	I-D
Naphthalene (molten)	A	S/P	II	4m	PV	Restr	A, D	.409, .440, .908(b)	I-D
Naphthalene sulfonic acid, sodium salt solution (40% or less).	[A]	P	III	NR	Open	Open	NSR	.409	NA
Naphthenic acid	A	P	II	NR	Open	Open	A	.409	NA
Naphthenic acid, sodium salt solution.	[A]	P	II	NR	Open	Open	NSR	.409	NA
Neodecanoic acid	C	P	III	NR	Open	Open	A	None	NA
Nitrating acid (<i>mixture of sulfuric and nitric acids</i>).	C	S/P	II	B/3	PV	Closed	NSR	.316, .408, .526, .527, .554, .555, .556, .559, .602, .933, .1000, .1045.	I-B
Nitric acid (70% or less)	C	S/P	II	4m	PV	Restr	NSR	.408, .526, .527, .554, .555, .559, .933, .1045.	I-B
Nitrobenzene	B	S/P	II	B/3	PV	Closed	A, D	.316, .336, .408, .440, .525, .526, .908(b), .933, .1020.	I-D
Nitroethane ⁷	D	S	III	4m	PV	Restr	⁷ A, C	.236(b), .409, .526, .1002(a), (b), .1003.	I-C
Nitroethane, 1-Nitropropane (each 15% or more) mixture ⁷ .	D	S	III	4m	PV	Restr	⁷ A	.236(b), .409, .526, .1002	I-C
o-Nitrophenol (molten)	B	S/P	II	B/3	PV	Closed	A, C, D	.409, .440, .525, .526, .908(a), (b), .1020.	NA
1- or 2-Nitropropane ⁷	D	S	III	4m	PV	Restr	⁷ A, C	.409, .526	I-C
Nitropropane (60%), Nitroethane (40%) mixture ⁷ .	D	S	III	4m	PV	Restr	⁷ A, C	.236(b), .409, .526	I-C
Nitropropane (20%), Nitroethane (80%) mixture ⁷ .	D	S	III	4m	PV	Restr	⁷ A, C	.236(b), .409, .526, .1002(a), (b), .1003.	I-C
(o-, p-) Nitrotoluene	B	S/P	II	B/3	PV	Closed	A, B	.316, .408, .440, .525, .526, .908(b), .1020.	I-D
Nonane (all isomers), see Alkanes(C6–C9).	C	P	III	4m	PV	Restr	B, C	.409	I-D
Nonene (all isomers)	B	P	III	4m	PV	Restr	A	.409	I-D
Nonyl acetate	C	P	III	NR	Open	Open	A	.409	I-D
Nonyl alcohol (all isomers)	C	P	III	NR	Open	Open	A	None	I-D
Nonyl phenol	A	P	II	NR	Open	Open	A	.409	I-D

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Nonyl phenol poly(4+)ethoxylates.	B	P	III	NR	Open	Open	A	.409, .440, .488 ¹ , .908(a), (b)	I-D
Noxious liquid, N.F., (1) n.o.s. ("trade name" contains "principal components") ST 1, Cat A.	A	P	I	NR	Open	Open	A	.408	NA
Noxious liquid, F., (2) n.o.s. ("trade name" contains "principal components") ST 1, Cat A.	A	P	I	4m	PV	Restr	A	.408	NA
Noxious liquid, N.F., (3) n.o.s. ("trade name" contains "principal components") ST 2, Cat A.	A	P	II	NR	Open	Open	A	.409	NA
Noxious liquid, F., (4) n.o.s. ("trade name" contains "principal components") ST 2, Cat A.	A	P	II	4m	PV	Restr	A	.409	NA
Noxious liquid, N.F., (5) n.o.s. ("trade name" contains "principal components") ST 2, Cat B.	B	P	II	NR	Open	Open	A	.409; (.440, .908) ¹	NA
Noxious liquid, N.F., (6) n.o.s. ("trade name" contains "principal components") ST 2, Cat B, mp. equal to or greater than 15 deg. C.	B	P	II	NR	Open	Open	A	.409, .440, .488, .908(b); (.908(a)) ¹	NA
Noxious liquid, F., (7) n.o.s. ("trade name" contains "principal components") ST 2, Cat B.	B	P	II	4m	PV	Restr	A	.409; (.440, .908) ¹	NA
Noxious liquid, F., (8) n.o.s. ("trade name" contains "principal components") ST 2, Cat B, mp. equal to or greater than 15 deg. C.	B	P	II	4m	PV	Restr	A	.409, .440, .488, .908(b); (.908(a)) ¹	NA
Noxious liquid, N.F., (9) n.o.s. ("trade name" contains "principal components") ST 3, Cat A.	A	P	III	NR	Open	Open	A	.409	NA
Noxious liquid, F., (10) n.o.s. ("trade name" contains "principal components") ST 3, Cat A.	A	P	III	4m	PV	Restr	A	.409	NA
Noxious liquid, N.F., (11) n.o.s. ("trade name" contains "principal components") ST 3, Cat B.	B	P	III	NR	Open	Open	A	(.409, .440, .908) ¹	NA
Noxious liquid, N.F., (12) n.o.s. ("trade name" contains "principal components") ST 3, Cat B, mp. equal to or greater than 15 deg. C.	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(b); (.908(a)) ¹	NA
Noxious liquid, F., (13) n.o.s. ("trade name" contains "principal components") ST 3, Cat B.	B	P	III	4m	PV	Restr	A	.409; (.440, .908) ¹	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Noxious liquid, F., (14) n.o.s. ("trade name" contains "principal components") ST 3, Cat B, mp. equal to or greater than 15 deg. C.	B	P	III	4m	PV	Restr	A	.409, .440, .488, .908(b); (.908(a)) ¹	NA
Noxious liquid, N.F., (15) n.o.s. ("trade name" contains "principal components") ST 3, Cat C.	C	P	III	NR	Open	Open	A	(.440, .903, .908) ¹	NA
Noxious liquid, F., (16) n.o.s. ("trade name" contains "principal components") ST 3, Cat C.	C	P	III	4m	PV	Restr	A	(.440, .903, .908) ¹	NA
Octane (all isomers), <i>see</i> Alkanes(C6–C9).	C	P	III	4m	PV	Restr	A	.409	I-D
Octanol (all isomers)	C	P	III	NR	Open	Open	A	None	I-D
Octene (all isomers)	B	P	III	4m	PV	Restr	A	.409	I-D
Octyl acetate	C	P	III	NR	Open	Open	A	None	I-D
Octyl aldehydes	B	P	III	4m	PV	Restr	A	.409, .440, .908(b)	I-C
Octyl nitrates (all isomers), <i>see</i> Alkyl(C7–C9) nitrates.									
Olefin mixtures (C5–C7)	C	P	III	4m	PV	Restr	A	.409	I-D
Olefin mixtures (C5–C15)	B	P	III	4m	PV	Restr	A	.409	I-D
alpha-Olefins (C6–C18) mixtures.	B	P	III	4m	PV	Restr	A	.409, .440, .908(a), (b)	I-D
Oleum	C	S/P	II	B/3	PV	Closed	NSR	.316, .408, .440, .526, .527, .554, .555, .556, .602, .908(a), .933, .1000, .1045, .1052.	I-B
Oleylamine	A	S/P	II	4m	PV	Restr	A	.409, .526	NA
Palm kernel acid oil	C	P	III	NR	Open	Open	A, B	.440, .903, .908(a), (b)	NA
Paraldehyde	C	S/P	III	4m	PV	Restr	A	.409, .440, .908(b)	I-C
Paraldehyde-ammonia reaction product.	C	S/P	II	B/3	PV	Closed	A	.236 (a), (b), (c), (g), .525(a), (c), (e), .408, .526, .1020.	NA
Pentachloroethane	B	S/P	II	B/3	PV	Restr	NSR	.316, .409, .525, .526, .1020	NA
1,3-Pentadiene	C	S/P	III	4m	PV	Restr	A, B	.409, .526, .912(a)(1), .1002, .1004	I-D
Pentane (all isomers)	C	P	III	4m	PV	Restr	A	.372, .409	I-D
n-Pentanoic acid (64%), 2-Methyl butyric acid (36%) mixture.	D	S	II	B/3	Open	Closed	A, D	.238(a), .408, .525(a), (c), (e), .554, .933, .1020.	I-D
Pentene (all isomers)	C	P	III	4m	PV	Restr	A	.409	I-D
n-Pentyl propionate	C	P	III	4m	PV	Restr	A	.409	I-D
Perchloroethylene	B	S/P	III	B/3	PV	Restr	NSR	.409, .526	NA
Phenol (<i>or solutions with 5% or more Phenol</i>).	C	S/P	II	B/3	PV	Closed	A	.408, .440, .488, .525, .526, .908(a), (b), .933, .1020.	I-D
1-Phenyl-l-xylyl ethane	C	P	III	NR	Open	Open	A, B	None	NA
Phosphate esters, alkyl(C12–C14)amine.	B	P	III	4m	PV	Restr	A	.409	NA
Phosphoric acid	D	S	III	NR	Open	Open	NSR	.554, .555, .558, .1045, .1052, .933	I-B
Phthalic anhydride (molten)	C	S/P	III	4m	PV	Restr	A, D	.440, .908(a), (b)	I-D
<i>Pinene, see the alpha- or beta- isomers.</i>									
alpha-Pinene	A	P	III	4m	PV	Restr	A	.409	I-D
beta-Pinene	B	P	III	4m	PV	Restr	A	.409	I-D
Pine oil	C	P	III	NR	Open	Open	A	.440, .908(a)	I-D
Polyalkyl(C18–C22) acrylate in Xylene.	C	P	III	4m	PV	Restr	A	.409, .440, .903, .908(a)	NA
Polyalkylene oxide polyol	C	P	III	NR	Open	Open	A	.440, .903, .908(a)	NA
Poly(2+)cyclic aromatics	A	P	II	4m	PV	Restr	A, D	.409	I-D
Polyethylene polyamines	C	S/P	III	NR	Open	Open	A	.236(b), (c), .400, .440, .908(b)	NA
Polyferric sulfate solution	C	S/P	III	NR	Open	Open	NSR	.238(d)	NA
Polyisobutenamine in aliphatic (C10–C14) solvent.	C	P	III	NR	Open	Open	A	.903	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Polymethylene polyphenyl isocyanate ⁶ .	D	S	II	B/3	PV	Closed	A, C ⁶ , D	.236(a), (b), .409, .500, .501, .525, .526, .602, .1000, .1020.	NA
Polyolefinamine (C28–C250).	C	P	III	NR	Open	Open	A	None	NA
Polyolefinamine in alkyl(C2–C4)benzenes.	C	P	III	4m	PV	Restr	A	.409, .440, .903, .908(a)	I-D
Polyolefin phosphor-sulfide, barium derivative (C28–C250).	C	P	III	NR	Open	Open	A, B	(.440, .903, .908(a)) ¹	NA
Poly(tetramethylene ether) glycols (mw 950-1050).	B	P	III	NR	Open	Open	A, D	.409, .440, .488, .908(a), (b)	NA
Potassium hydroxide solution, see Caustic potash solution									
Potassium oleate	C	P	III	NR	Open	Open	A	.409	NA
Potassium thiosulfate (50% or less).	C	P	III	NR	Open	Open	NSR	None	NA
iso-Propanolamine	C	S/P	III	NR	Open	Open	A	.236(b), (c), .440, .526, .903, .908(b).	I-D
n-Propanolamine	C	S/P	III	NR	Open	Open	A, D	.236(b), (c), .440, .526, .908(b)	NA
Propionaldehyde	C	S/P	III	4m	PV	Restr	A	.316, .409, .526, .527	I-C
Propionic acid	D	S	III	4m	PV	Restr	A	.238(a), .409, .527, .554, .933	I-D
Propionic anhydride	C	S/P	III	4m	PV	Restr	A	.238(a), .526	I-D
Propionitrile	C	S/P	II	B/3	PV	Closed	A, D	.252, .316, .336, .408, .525, .526, .527, .1020.	I-D
iso-Propylamine	C	S/P	II	B/3	PV	Closed	C, D	.236(b), (c), .372, .408, .440, .525, .526, .527, .1020.	I-D
iso-Propylamine solution (70% or less).	C	S/P	II	B/3	PV	Closed	C, D	.236(a), (b), (c), (g), .408, .440, .525, .526, .527, .1020.	I-D
n-Propylamine	C	S/P	II	B/3	PV	Closed	A, C, D	.236(b), (c), .408, .500, .525, .526, .527, .1020.	I-D
<i>n</i> -Propylbenzene, see Propylbenzene (all isomers).									
Propylbenzene (all isomers).	A	P	III	4m	PV	Restr	A	.409	I-D
n-Propyl chloride	D	S	III	4m	PV	Restr	A, B	.409	I-D
iso-Propylcyclohexane	C	P	III	4m	PV	Restr	A	.409, .440, .903, .908(a)	I-D
Propylene dimer	C	P	III	4m	PV	Restr	A	.409	NA
Propylene oxide	C	S/P	II	B/3	PV	Closed	A, C	.372, .408, .440, .500, .526, .530, .1010, .1011.	I-B
Propylene tetramer	B	P	III	4m	PV	Restr	A	.409	I-D
Propylene trimer	B	P	III	4m	PV	Restr	A	.409	I-D
iso-Propyl ether	D	S	III	4m	PV	Restr	A	.409, .500, .515, .912(a)(1)	I-D
Pyridine	D	S	III	4m	PV	Restr	A	.236(b), .409	I-D
Rosin, see Rosin oil.									
Rosin oil	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(a), (b)	I-D
Rosin soap (disproportionated) solution.	B	P	III	NR	Open	Open	A	.409	NA
Sodium alkyl (C14-C17) sulfonates 60-65% solution, see Alkane (C14-C17) sulfonic acid, sodium salt solution.									
Sodium aluminate solution	D	S	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .933	NA
Sodium borohydride (15% or less), Sodium hydroxide solution.	C	S/P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .440, .908(a), .933.	NA
Sodium chlorate solution (50% or less).	III	S	III	NR	Open	Open	NSR	.409, .933, .1065	NA
Sodium dichromate solution (70% or less).	C	S/P	II	B/3	Open	Closed	NSR	.236(b), (c), .408, .525, .933, .1020	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
<i>Sodium dimethyl naphthalene sulfonate solution, see Dimethyl naphthalene sulfonic acid, sodium salt solution.</i>									
Sodium hydrogen sulfide (6% or less), Sodium carbonate (3% or less) solution.	B	P	III	NR	Open	Open	NSR	.409	NA
Sodium hydrogen sulfite solution (45% or less).	D	S	III	NR	Open	Open	NSR	None	NA
Sodium hydrosulfide solution (45% or less).	B	S/P	III	4m	PV	Restr	NSR	.409, .440, .526, .908(b), .933	NA
Sodium hydrosulfide, Ammonium sulfide solution.	B	S/P	II	B/3	PV	Closed	A, C	.236(a), (b), (c), (g), .316, .372, .408, .525, .526, .527, .933, .1002, .1020.	NA
Sodium hydroxide solution, see Caustic soda solution									
Sodium hypochlorite solution (15% or less).	C	S/P	III	4m	PV	Restr	NSR	.236(a), (b), .933	NA
Sodium long chain alkyl salicylate (C13+).	[C]	P	III	NR	Open	Open	A	(.440, .903, .908(a)) ¹	NA
Sodium-2-mercaptobenzothiazol solution.	B	S/P	III	NR	Open	Open	NSR	.236(a), (b), (c), (g), .409, .440, .908(b), .933.	NA
<i>Sodium N-methyldithiocarbamate solution, see Metam sodium solution.</i>									
<i>Sodium naphthalene sulfonate solution (40% or less), see Naphthalene sulfonic acid, sodium salt solution (40% or less).</i>									
<i>Sodium naphthenate solution, see Naphthenic acid, sodium salt solution.</i>									
Sodium nitrite solution	B	S/P	II	NR	Open	Open	NSR	.408, .525(a), (c), (d), (e), .1020	NA
Sodium petroleum sulfonate.	B	S/P	II	NR	Open	Open	A	.409, .440, .908(a)	NA
Sodium silicate solution	C	P	III	NR	Open	Open	A	None	NA
Sodium sulfide solution (15% or less).	B	S/P	III	B/3	PV	Closed	NSR	.236(a), (b), .409, .440, .526, .908(b).	NA
Sodium sulfite solution (25% or less).	C	P	III	NR	Open	Open	NSR	.409, .440, .908(b)	NA
Sodium tartrates, Sodium succinates solution.	D	S	III	NR	Open	Open	A, B	.238(e)	NA
Sodium thiocyanate solution (56% or less).	B	P	III	NR	Open	Open	NSR	.238(a), .409	NA
Styrene monomer	B	S/P	III	4m	PV	Restr	A, B	.236(b), .409, .912(a)(1), .1002(a), (b), .1004.	I-D
Sulfohydrocarbon, long chain (C18+) alkylamine mixture.	B	P	III	NR	Open	Open	A, B	.409; (.440, .908(a)) ¹	NA
Sulfur (molten)	III	S	III	NR	Open	Open	NSR	.252, .440, .526, .545	I-C
Sulfuric acid	C	S/P	III	NR	Open	Open	NSR	.440, .554, .555, .556, .602, .908(a), (b), .933, .1000, .1045, .1046, .1052.	I-B
Tall oil (<i>crude and distilled</i>)	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(a), (b)	NA
Tall oil, fatty acid (<i>resin acids less than 20%</i>).	C	P	III	NR	Open	Open	A	.440, .908(a), (b)	NA
Tall oil fatty acid, barium salt.	B	S/P	III	NR	Open	Open	A	.409, .440, .908(a)	NA
Tall oil soap (disproportionated) solution.	B	P	III	NR	Open	Open	A	.409, .440, .908(a), (b)	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
1,1,2,2-Tetrachloroethane	B	S/P	III	B/3	PV	Restr	NSR	.316, .409, .525, .526, .1020	NA
Tetraethylenepentamine ³	D	S	III	NR	Open	Open	A	.236(b), (c), (g)	I-C
Tetrahydrofuran	D	S	III	4m	PV	Restr	A, D	.409, .526, .912(a)(2), .1004	I-C
Tetrahydronaphthalene	C	P	III	NR	Open	Open	A	None	I-D
Tetramethylbenzene (all isomers).	A	P	III	NR	Open	Open	A	None	I-D
Toluene	C	P	III	4m	PV	Restr	A	.409	I-D
Toluenediamine	C	S/P	II	B/3	PV	Closed	A, B, C, D	.236(a), (b), (c), (g), .316, .408, .440, .525, .526, .527, .908(a), (b), .933, .1020	NA
Toluene diisocyanate ⁶	C	S/P	II	4m	PV	Closed	A, C ⁶ , D	.236(b), .316, .408, .440, .500, .501, .525, .526, .527, .602, .908(b), .1000, .1020	I-D
o-Toluidine	C	S/P	II	B/3	PV	Closed	A, C	.316, .408, .525, .526, .933, .1020	I-D
Tributyl phosphate	B	P	III	NR	Open	Open	A	.409	I-D
1,2,3-Trichlorobenzene (molten).	A	S/P	I	B/3	PV	Closed	A, C, D	.316, .408, .440, .526, .908(b), .933	I-D
1,2,4-Trichlorobenzene	B	S/P	II	4m	PV	Restr	A, B, C,	.409, .440, .526, .908(b),	I-D
1,1,1-Trichloroethane	C	P	III	NR	Open	Open	A	.409	I-D
1,1,2-Trichloroethane	C	S/P	III	B/3	PV	Restr	NSR	.409, .525, .526, .933, .1020	I-D
Trichloroethylene	C	S/P	III	B/3	PV	Restr	NSR	.316, .409, .525, .526, .1020	I-D
1,2,3-Trichloropropane	C	S/P	II	B/3	PV	Closed	A, B, C, D	.316, .408, .525, .526, .933, .1020	I-D
1,1,2-Trichloro-1,2,2-trifluoroethane.	C	P	III	NR	Open	Open	NSR	None	NA
Tricresyl phosphate (less than 1% of the ortho isomer).	A	P	II	NR	Open	Open	A	.409	I-D
Tricresyl phosphate (1% or more of the ortho isomer).	A	S/P	I	4m	PV	Closed	A, B	.408, .525(a), (c), (d), (e), .1020	I-D
Tridecanoic acid	B	P	III	NR	Open	Open	A	.409, .440, .488, .908(a), (b)	NA
Triethanolamine	D	S	III	NR	Open	Open	A	.236(a), (b), (c), (g)	I-C
Triethylamine	C	S/P	II	B/3	PV	Restr	A, B, C	.236(b), (c), .409, .525, .526, .527, .1020	I-C
Triethylbenzene	A	P	II	NR	Open	Open	A	.409	I-D
Triethylene glycol di-(2-ethylbutyrate).	[C]	P	III	NR	Open	Open	A	None	I-C
Triethylenetetramine	D	S	III	NR	Open	Open	A	.236(a), (b), (c)	I-C
Triethyl phosphite	B	S/P	III	B/3	PV	Restr	A, B, D	.409, .526	NA
Triisopropylated phenyl phosphates.	A	P	II	NR	Open	Open	A	.409	NA
Trimethylacetic acid	D	S	III	4m	PV	Restr	A, C	.238(a), .266, .554	I-D
Trimethylamine solution (30% or less).	C	S/P	II	B/3	PV	Closed	A, C	.236(a), (b), (c), (g), .372, .408, .440, .525, .526, .527, .908(b), .1020	I-C
Trimethylbenzene (all isomers).	A	P	III	4m	PV	Restr	A	.409	I-D
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-isomers).	D	S	III	NR	Open	Open	A, C	.236(a), (b), (c), (g), .409	NA
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers) ⁶ .	B	S/P	II	B/3	PV	Closed	A, C ⁶	.316, .409, .500, .501, .525, .526, .602, .1000, .1020	NA
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate.	C	P	III	NR	Open	Open	A	None	I-D
Trimethyl phosphite	#	S	III	4m	PV	Restr	A, D	.409, .526, .602, .1000	I-D
1,3,5-Trioxane	D	S	III	4m	PV	Restr	A, D	.409	I-C
Trixylenyl phosphate	A	P	I	NR	Open	Open	A	.408	NA
Trixylyl phosphate, see Trixylenyl phosphate.									
Turpentine	B	P	III	4m	PV	Restr	A	.409	I-D
Undecanoic acid	B	P	III	NR	Open	Open	A	.440, .908(a), (b)	NA

TABLE 1.—SUMMARY OF MINIMUM REQUIREMENTS—Continued

Cargo name	IMO Annex II Pollution Category	Haz.	Cargo containment system	Vent height	Vent	Gauge	Fire protection system	Special requirements in 46 CFR Part 153	Electrical hazard class and group
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
1-Undecene	B	P	III	NR	Open	Open	A	.409	I-D
1- Undecyl alcohol	B	P	III	NR	Open	Open	A	.409, .440, .908(b)	I-D
Urea, Ammonium nitrate solution (containing more than 2% NH ₃).	C	S/P	III	4m	PV	Restr	A	.236(b), .526	I-D
Valeraldehyde (all isomers)	C	S/P	III	4m	PV	Restr	A	.409, .500, .526	I-C
Vinyl acetate	C	S/P	III	4m	PV	Restr	A	.409, .912(a)(1), .1002(a), (b), .1004.	I-D
Vinyl ethyl ether	C	S/P	II	4m	PV	Closed	A	.236(b), (d), (f), (g), .252, .372, .408, .440, .500, .515, .526, .527, .912(a)(1), .1002(a), (b), .1004.	I-C
Vinylidene chloride	D	S	II	4m	PV	Restr	B	.236(a), (b), .372, .409, .440, .500, .526, .527, .912(a)(1), .1002(a), (b), .1004.	I-D
Vinyl neodecanate	B	S/P	III	NR	Open	Open	A, B	.409, .912(a)(1), .1002(a), (b), .1004.	NA
Vinyltoluene	A	S/P	III	4m	PV	Restr	A, B, D	.236(a), (b), (c), (g), .409, .912(a)(1), .1002(a), (b), .1004.	I-D
White spirit (low (15–20%) aromatic).	B	P	II	4m	PV	Restr	A	.409	NA
Xylenes ⁸ (<i>ortho</i> -, <i>meta</i> -, <i>para</i> -).	C	P	III	4m	PV	Restr	A	.409, .440, .908(b) ⁸	I-D
Xylenes, Ethylbenzene (10% or more) mixture.	B	P	III	4m	PV	Restr	A	.409	NA
Xylenol	B	S/P	III	NR	Open	Open	A, B	.409, .440, .908(a), (b)	NA
Zinc alkaryl dithiophosphate (C7–C16).	C	P	III	NR	Open	Open	A, B	(.440, .903, .908(a)) ¹	NA
Zinc alkyl dithiophosphate (C3–C14).	B	P	III	NR	Open	Open	A, B	.409; (.440, .908(a)) ¹	NA

Column Heading Footnotes:

a. The cargo name must be as it appears in this column (see 153.900, 153.907). Words in italics are not part of the cargo name but may be used in addition to the cargo name. When one entry references another entry by use of the word “see”, and both names are in roman type, either name may be used as the cargo name (e.g., Diethyl ether, *see* Ethyl ether). However, the referenced entry is preferred.

The provisions contained in 46 CFR part 197, subpart C, apply to liquid cargoes containing 0.5% or more benzene by volume.

b. This column lists the IMO Annex II Pollution Category.

A, B, C, D—NLS Category of Annex II of MARPOL 73/78.

III—Appendix III of Annex II (non-NLS cargoes) of MARPOL 73/78.

#—No determination of NLS status. For shipping on an oceangoing vessel, see 46 CFR 153.900(c).

[]—A NLS category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of its pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.

@—The NLS category has been assigned by the U.S. Coast Guard, in absence of one assigned by the IMO. The category is based upon a GESAMP Hazard Profile or by analogy to a closely related product having an NLS assigned.

c. This column lists the hazard(s) of the commodity:

S—The commodity is included because of its safety hazards.

P—The commodity is included because of its pollution hazards.

S/P—The commodity is included because of both its safety and pollution hazards.

d. This column lists the type of containment system the cargo must have (see 153.230 through 153.232).

e. This column lists the height of any vent riser required (see 153.350 and 153.351).

f. This column lists any vent control valve required (see 153.355).

g. This column lists the type of gauging system required (see 153.400 through 153.406).

h. This column lists the type of fire protection system required. Where more than one system is listed, any listed system may be used. A dry chemical system may not be substituted for either type of foam system unless the dry chemical system is listed as an alternative or the substitution is approved by Commandant (G—MSO) (see 153.460). The types are as follows:

A is a foam system for water soluble cargoes (polar solvent foam).

B is a foam system for water insoluble cargoes (non-polar solvent foam).

C is a water spray system.

D is a dry chemical system.

NSR means there is no special requirement applying to fire protection systems.

i. This column lists sections that apply to the cargo in addition to the general requirements of this part. The 153 Part number is omitted.

j. This column lists the electrical hazard class and group used for the cargo when determining requirements for electrical equipment under Subchapter J (Electrical Engineering) of this chapter.

A number of electrical hazard class and group assignments are based upon that which appears in “Classification of Gases, Liquids and Volatile Solids Relative to Explosion-Proof Electrical Equipment”, Publication NMAB 353–5, National Academy Press, 1982, when not appearing in NFPA 497M, “Manual for Classification of Gases, Vapors and Dusts for Electrical Equipment in Hazardous (Classified) Locations.”

The I-B electrical hazard does not apply to weather deck locations (see 46 CFR Part 111) for inorganic acids: Chlorosulfonic acid; Hydrochloric acid; Nitric acid; Nitric acid (70% or less); Oleum; Phosphoric acid; Sulfuric acid.

Abbreviations used in the Table:

NR—No requirement.

NA—Not applicable.

Abbreviations for Noxious Liquid cargoes:

- N.F.—non-flammable (flash point greater than 60 deg C (140 deg F) closed cup (cc)).
 F.—flammable (flash point less than or equal to 60 deg C (140 deg F) closed cup (cc)).
 n.o.s.—not otherwise specified.
 ST—Ship type.
 Cat—Pollution category.

Footnotes for Specific Cargoes:

1. Special applicability:
 153.440 and .908(a) apply to the chemical, and mixtures containing the chemical, with a viscosity of 25 mPa.s at 20 deg C (68 deg F).
 153.440 and .908(b) apply to the chemical, and mixtures containing the chemical, with a melting point of 0 deg C (32 deg F) and above.
 153.488 applies to the chemical, and mixtures containing the chemical, with a melting point of 15 deg C (59 deg F) and above.
2. Benzene containing cargoes.
 Applies to mixtures containing no other components with safety hazards and where the pollution category is C or less.
3. Diammonium salt of Zinc ethylenediaminetetraacetic acid solution; Tetraethylenepentamine.
 Aluminum is a questionable material of construction with this cargo since pitting and corrosion has been reported. The IMO Chemical Code prohibits aluminum as a material of construction for this cargo.
4. 2,4-Dichlorophenol.
 Some tank pitting has been reported when this cargo is contaminated with water, including moisture in the air. The IMO Chemical Code requires that the vapor space over this cargo be kept dry.
5. Reserved.
6. Diphenylmethane diisocyanate; Hexamethylene diisocyanate; Isophorone diisocyanate; Polymethylene polyphenyl isocyanate; Toluene diisocyanate; Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4- isomers).
 Water is effective in extinguishing open air fires but will generate hazardous quantities of gas if put on the cargo in enclosed spaces.
7. Maleic anhydride; Nitroethane; Nitroethane, 1-Nitropropane mixtures; 1- or 2-Nitropropane; Nitropropane, Nitroethane mixtures.
 Dry chemical extinguishers should not be used on fires involving these cargoes since some dry chemicals may react with the cargo and cause an explosion.
8. Xylenes.
 Special requirement .908(b) only applies to the para- (p-) isomer, and mixtures containing the para-isomer having a melting point of 0 deg C (32 deg F) or more.

PART 153 TABLE II—[AMENDED]

20. Amend Table 2 as follows:

a. Change bold-faced type wherever it appears to Roman type; in the column entitled “Cargoes”, remove each bullet “•” that precedes the name of a cargo; and remove the undesignated footnote that reads: “Items with a bullet (•) or in **boldface** are changes since October 1, 1993”.

b. From the column entitled “Cargoes”, remove the words “Dextrose solution” and add, in their place, the words “*Dextrose solution, see Glucose solution*”, and beside it in the column entitled “Pollution Category”, remove the number “III”.

c. From the column entitled “Cargoes”, remove the words “Lignin sulfonic acid, sodium salt solution” and add, in their place, the words “Lignin sulfonic acid, sodium salt solution, *see also Lignin liquor or Sodium lignosulfonate solution*”.

d. In the column entitled “Pollution Category”, beside the entry “Drilling brine (containing Calcium, Potassium, or Sodium Salts)”, add the number “III”.

e. From the column entitled “Cargoes”, remove the words “Pentasodium salt of Diethylenetriamine pentaacetic acid solution, *see Diethylenetriamine pentaacetic acid, pentasodium salt solution*” and add, in their place, the words “*Pentasodium salt of Diethylenetriamine pentaacetic acid solution, see Diethylenetriamine*

pentaacetic acid, pentasodium salt solution”; and, from beside them in the column entitled “Pollution Category”, remove the number “III”.

f. From the column entitled “Cargoes”, remove the words “Sodium naphthenate solution (free alkali content, 3% or less), *see Naphthenic acid, sodium salt solution*” and add, in their place, the words “*Sodium naphthenate solution (free alkali content, 3% or less), see Naphthenic acid, sodium salt solution*”; and, from beside it in the column entitled “Pollution Category”, remove the letter “[A]”.

g. From the column entitled “Cargoes”, remove the words “Tetrasodium salt of Ethylenediaminetetraacetic acid solution, *see Ethylenediaminetetraacetic acid, tetrasodium salt solution*” and add, in their place, the words “*Tetrasodium salt of Ethylenediaminetetraacetic acid solution, see Ethylenediaminetetraacetic acid, tetrasodium salt solution*”; and, from beside it in the column entitled “Pollution Category”, remove the letter “D”.

h. From the column entitled “Cargoes”, remove the words “Trisodium salt of N-(Hydroxyethyl)ethylenediaminetriacetic acid solution, *see N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution*” and add, in their place, the words “*Trisodium salt of N-*

(Hydroxyethyl)ethylenediamine triacetic acid solution, see N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution”; and, from beside it in the column entitled “Pollution Category”, remove the letter “D”.

21. Amend Table 2 by adding the following new entries in chemically proper alphabetized order:

TABLE 2—CARGOES NOT REGULATED UNDER SUBCHAPTERS D OR O OF THIS CHAPTER WHEN CARRIED IN BULK ON NON-OCEANGOING BARGES

Cargoes	Pollution category
* * * * *	
Ammonium thiosulfate solution (60% or less).	C
* * * * *	
Sulfonated polyacrylate solution	III
* * * * *	
Titanium dioxide slurry	III
* * * * *	

Dated: August 30, 2000.

Joseph J. Angelo,

Director of Standards, Marine Safety and Environmental Protection.

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