9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

46 CFR Parts 30, 150, and 153

[Docket No. USCG-2013-0423]

RIN 1625-AB94

2013 Liquid Chemical Categorization Updates

AGENCY: Coast Guard, DHS.

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes additional updates and revisions to regulatory tables that were amended by an interim rule published in August 2013. The tables list liquid hazardous materials, liquefied gases, and compressed gases approved for maritime transportation in bulk, and indicate how each cargo is categorized by its pollution risk and safe carriage requirements. These proposals would correct errors in the interim rule and bring the tables current through December 2013. Updated information is of value to shippers and to the owners and operators of U.S.-flag tank and bulk cargo vessels in any waters, and most foreign-flag tank and oceangoing bulk cargo vessels in U.S. waters. The proposed rule promotes the Coast Guard's maritime safety and stewardship (environmental protection) missions.

DATES: Comments and related material must be submitted to the online docket via http://www.regulations.gov, or reach the Docket Management Facility, on or before

[INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Submit comments using one of the listed methods, and see the SUPPLEMENTAL INFORMATION section of this preamble for more information on public comments.

- *Online* – http://www.regulations.gov following website instructions.
- *Fax* – 202-493-2251.
- *Mail* or *hand deliver* – Docket Management Facility (M-30), U.S. Department of Transportation, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001. Hand delivery hours: 9 a.m. to 5 p.m., Monday through Friday, except Federal holidays (telephone 202-366-9329).

FOR FURTHER INFORMATION CONTACT: For information about this document call or e-mail Mr. Patrick Keffler, Coast Guard; telephone 202-372-1424, e-mail Patrick.A.Keffler@uscg.mil. For information about viewing or submitting material to the docket, call Ms. Cheryl Collins, Program Manager, Docket Operations, telephone 202-366-9826, toll free 1-800-647-5527.

SUPPLEMENTARY INFORMATION:

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I. Public Participation and Comments

We encourage you to submit comments (or related material) on this rulemaking. We will consider all submissions and may adjust our final action based on your comments. Comments should be marked with docket number USCG-2013-0423 and should provide a reason for each suggestion or recommendation. You should provide personal contact information so that we can contact you if we have questions regarding your comments; but please note that all comments will be posted to the online docket without change and that any personal information you include can be searchable online.[1]

Mailed or hand-delivered comments should be in an unbound 8½ x 11 inch format suitable for reproduction. The Docket Management Facility will acknowledge receipt of mailed comments if you enclose a stamped, self-addressed postcard or envelope with your submission.

Documents mentioned in this notice, and all public comments, are in our online docket at http://www.regulations.gov and can be viewed by following the website's instructions. You can also view the docket at the Docket Management Facility (see the mailing address under ADDRESSES) between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

We are not planning to hold a public meeting but will consider doing so if public

[1] *See* the *Federal Register* Privacy Act notice regarding our public dockets, 73 FR 3316, Jan. 17, 2008.

comments indicate a meeting would be helpful. We would issue a separate *Federal Register* notice to announce the date, time, and location of such a meeting.

II. Abbreviations

DHS	Department of Homeland Security
E.O.	Executive Order
FR	Federal Register
IBC Code	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973
MEPC	Marine Environment Protection Committee
NLS	Noxious liquid substance
SOLAS	International Convention for the Safety of Life at Sea
§	Section Symbol
U.S.C.	United States Code

III. Discussion

Basis and purpose. The legal basis of this rulemaking is 46 U.S.C. 3703, which requires the Secretary of the department in which the Coast Guard is operating to prescribe regulations relating to the operation of vessels that carry liquid bulk dangerous cargoes, and to the types and grades of cargo those vessels carry. Additional regulatory authority is provided by 33 U.S.C. 1903 (regulations to implement the International Convention for the Prevention of Pollution from Ships, 1973, or "MARPOL"), 46 U.S.C. 2103 (general merchant marine regulatory authority), and 46 U.S.C. 3306 (regulations for the safety of individuals and property on inspected vessels). The Secretary's authority under these statutes is delegated to the Coast Guard in DHS Delegation No. 0170.1, para.II (77), (92.a), and (92.b).

The purpose of the rulemaking is to update and revise regulatory tables that list liquid hazardous materials, liquefied gases, and compressed gases that have been

approved for maritime transportation in bulk, and that indicate how each cargo is categorized by its pollution risk and safe carriage requirements.

2013 Interim Rule. The Coast Guard published an interim rule on this topic in 2013.[2] Acknowledging public comments that brought to light certain errors in the interim rule, the Coast Guard delayed its effective date, originally September 16, 2013, on three occasions, most recently until January 16, 2017.[3] We are correcting those errors in this supplemental notice of proposed rulemaking (SNPRM). In addition, given the lapse of time since we published the interim rule, we propose updating the interim rule's tables as of December 2013. Therefore, we are issuing an SNPRM, rather than proceeding directly from the 2013 interim rule to a final rule, so that, in the interest of ensuring the accuracy of our tables, we can take another round of public comments before issuing a final rule.

Purpose of tables. Coast Guard regulations in 46 CFR subchapter D (tank vessels, parts 30 through 39) and subchapter O (certain bulk dangerous cargoes, parts 150 through 155) contain requirements for ensuring the safe maritime carriage (transportation) of certain bulk liquid cargoes. Tables in subchapters D and O list the cargoes that have been approved for maritime carriage. They also categorize each cargo's pollution-hazard risk and safe carriage requirements in accordance with the Coast Guard and International Maritime Organization (IMO) assessment and review processes described in the

[2] "2012 Liquid Chemical Categorization Updates; Interim Rule," 78 FR 50147 (Aug. 16, 2013). Because the interim rule contained information updated only through December 2012, it bore the heading "2012 Liquid Chemical Categorization Updates." This SNPRM is headed "2013 Liquid Chemical Categorization Updates" because it has been updated as of the December 2013 MEPC Circular, but the SNPRM shares the same docket with the interim rule.

[3] *See* 78 FR 56837 (Sep. 16, 2013; delayed until Jan. 16, 2014); 79 FR 2106 (Jan. 13, 2014; delayed until Jan. 16, 2015); 79 FR 68131 (Nov. 14, 2014; delayed until Jan. 16, 2017).

following paragraphs. This information is of value to vessel owners and operators and to shippers of the cargoes involved.

Initial cargo assessment. If a vessel owner or operator plans to ship a newly-developed chemical substance internationally, as a bulk liquid cargo, the new cargo's chemical properties need to be assessed to ensure safe carriage.[4] Our tables contain cargo categorization information that derives from this initial assessment.

Agencies responsible for administering international maritime treaties (for the U.S., this is the Coast Guard) must agree on the new cargo's assessment before the cargo can be approved for transportation. This is done by a "tripartite agreement" entered into by the administrations of the exporting country, the importing country, and the country in which the ship that will carry the cargo is registered. The tripartite agreement categorizes the cargo's pollution-hazard risk and flammability/combustibility in accordance with the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code).[5] A copy of the tripartite agreement is forwarded to the IMO's Marine Environment Protection Committee (MEPC) and to the administration of every country that is signatory to the IBC Code.

The Coast Guard is unique among IBC Code–signatory administrations because, in addition to the categorizations contained in the tripartite agreement, it also assigns each cargo to a "compatibility group." This grouping guides IBC signatories and shippers in determining which cargoes, based on chemical analyses and test data submitted by manufacturers, would be chemically incompatible with other cargoes and therefore

[4] For Coast Guard approval to ship a cargo not previously approved for carriage, *see* 46 CFR 153.900.
[5] The IBC Code contains international standards for the safe maritime bulk transportation of dangerous and noxious liquid chemicals in accordance with MARPOL and the International Convention for the Safety of Life at Sea (SOLAS).

cannot safely be shipped with those other cargoes in adjacent tanks, without special precautions.[6] Our tables also reflect these compatibility groupings.

IMO assessment. Upon receipt of a tripartite agreement, the MEPC conducts its own multi-year review and assessment of the information contained in the tripartite agreement, and following that review, either validates or modifies the agreement's information. Our tables also reflect any modifications resulting from this IMO assessment.

Each December, the MEPC releases a circular listing each new cargo for which it has completed its review of the cargo's tripartite agreement. The circular lists the countries that have approved international maritime transportation of each new cargo, and provides information about the cargo's pollution-hazard risk and flammability/combustibility. Thus, if a tripartite agreement has approved a cargo for international bulk maritime transportation and the MEPC validates or modifies that information, eventually it will be listed in the MEPC circular.

Periodically, the IBC Code is revised, and cargoes listed in MEPC annual circulars since the last edition of the IBC Code are incorporated. The IBC Code was last comprehensively revised in 2007, at which time the previous pollution categorization scheme (categories A, B, C, and D, which indicate a cargo's relative pollution-hazard risk) were replaced by categories X, Y, Z , and OS (for "other cargoes," which at present are considered to pose no risk).[7] Our tables are intended to reflect the latest IBC Code

[6] *See* 46 CFR 150.120, 150.130, and Figure 1 to Part 150 (a compatibility matrix for determining how cargoes should be grouped).

[7] *See* MARPOL, Annex II, Chapter 2, Regulation 6. With respect to the discharge of a cargo into the sea from tank cleaning or deballasting operations and the resulting hazard posed to marine resources or human health, the new categories indicate:

- X = Major hazard justifying prohibition of the discharge;

revision, but until this rulemaking, they were not updated to incorporate the changes made by the 2007 IBC Code revision.

IMO actions reflected in this rulemaking. In March 2012, the IMO published an Annex to the 2007 IBC Code, listing additional cargoes with their pollution categorizations.

Until we published our 2013 interim rule, the tables in subchapter D and subchapter O had gone unamended for several years, and still contained the pre-2007 pollution categorizations. The interim rule updated the following tables as of the December 2012 MEPC circular:

- "Table 30.25-1" in subchapter D;
- "Table I to Part 150" in subchapter O;
- "Table II to Part 150" in subchapter O; and
- "Table 2 to Part 153" in subchapter O.

This supplemental notice of proposed rulemaking (SNPRM) proposes updating these tables as of the December 2013 circular. All four tables include cargoes that are listed either in MEPC circulars, or in tripartite agreements to which the U.S. is a party. (Information from other tripartite agreements is excluded pending MEPC review.)

Table contents. Table 30.25-1 lists flammable or combustible cargoes that, when transported in bulk, must be certificated under subchapter D regulations.

- Y = Hazard justifying a limitation on the quality and quantity of the discharge;
- Z = Minor hazard justifying less stringent restrictions on the quality and quantity of the discharge; and
- OS = No harm that justifies special discharge requirements

The two tables in part 150 contain the Coast Guard chemical compatibility categorization for each cargo. Table I lists all cargoes alphabetically and provides a category group for each. Table II lists cargoes by group.

Table 2 to Part 153 lists cargoes that, when carried in bulk on non-oceangoing barges, are not subject to subchapter D or O regulations, but that must comply with subchapter O if they are carried on oceangoing ships.[8]

Comments on 2013 interim rule and resulting changes. Our interim rule prompted comments from two individuals and four industry representatives, one of whom made multiple submissions. The two individuals commented on the safety of food containing genetically modified organisms. That is not an issue raised by our rulemaking and therefore is beyond its scope.

Three commenters asked why we had not discussed draft table updates with the Chemical Transportation Advisory Committee (CTAC), a group that advises the Coast Guard on chemical transportation matters, and suggested that consultation with CTAC could be helpful, along with more time for industry to review the interim rule before it took effect. CTAC operates pursuant to the Federal Advisory Committee Act, which requires advisory committees to operate under a valid charter.[9] From 2009 until 2013, the period during which we developed the interim rule, CTAC lacked such a charter and therefore was not operational. Since its reestablishment in 2013, we have kept CTAC apprised as to this rulemaking's status, but at no time has CTAC expressed the desire to

[8] Table 1 to Part 153, "Summary of Minimum Requirements [for safe carriage]" is not amended by this rulemaking. It lists a fuller list of minimum safe carriage requirements than those contained in the tables that this rulemaking amends. Because of Table 1's greater complexity, it may be the subject of a future rulemaking, pending study and recommendations from the Coast Guard's Chemical Transportation Advisory Committee.

[9] 5 U.S.C. Appendix 2, sec. 9(c).

make formal recommendations to the Coast Guard as to the rulemaking's direction. We are open to future CTAC recommendations, and individual CTAC members are welcome to comment on this SNPRM, as they are on any Coast Guard rulemaking. As to additional industry time for review, we believe the continuing delay in the interim rule's effective date has provided ample additional review time.

Three commenters said that, in Table I to Part 150, we mistakenly listed several cargoes in compatibility group 4, when in the past they have been listed in group 34 and not group 4. We agree this was a mistake and this SNPRM shows the cargoes in group 34.

One commenter asked if we consider that all cargoes shown in Table 30.25-1 or Table 2 to Part 153 as "n.o.s." ("not otherwise specified") should be assigned in Table I to Part 150 in group 0. We do not. Group 0 is the default assignment for a cargo that we have either determined cannot be shipped safely with any other cargo, or for a cargo for which we are unable to make any other assignment because we lack sufficient chemical analysis and test data on which to make that assignment. These criteria do not necessarily apply to an "n.o.s." cargo, and therefore we assign many "n.o.s." cargoes to compatibility groups other than group 0.

One commenter said that sodium methylate 21-30%, instead of being listed in compatibility group 20, should be listed in group 0 due to its highly reactive nature, and that diglycidyl ether of bisphenol A and F should be listed in compatibility group 18 rather than in group 41. We agree that the interim rule incorrectly listed these cargoes and this SNPRM shows sodium methylate 21-30% in group 0 and diglycidyl ether of bisphenol A and F in group 18.

One commenter addressed the interim rule's amendment to "Appendix I to Part 150 – Exceptions to the Chart." The "chart" referred to is Figure 1 to Part 150, a matrix showing how cargo compatibility can be determined. Appendix I lists binary combinations of substances that are treated as exceptions to Figure 1 because they have been tested and found not to be dangerously reactive. One commenter said that our revision of Appendix I failed to list between 10 and 15 previously approved exceptions. We agree and this SNPRM restores those exceptions to Appendix I.

One commenter said we should have expanded the interim rule's discussion of tripartite agreements, and we have done so accordingly in the "Background" section of this SNPRM. In addition to the changes we have made in response to comments, we are also restoring liquefied flammable gas listings in subchapter D's Table 30.25-1. We removed those listings in the interim rule, in anticipation of a policy change that would have allowed them to fall exclusively under subchapter O. That policy change has not occurred and we have restored the listings in this SNPRM.

It is our intention, for future years, to keep the tables updated annually. This SNPRM proposes the addition of new entries that would bring them up to date as of the December 2013 MEPC Circular.

We specifically request public comment on whether or not this SNPRM's information is correct, and in particular whether or not we have correctly and fully responded to comments on the interim rule and brought our information up to date as of December 2013.

IV. Regulatory Analyses

A. Regulatory Planning and Review

Executive Orders (E.O.s) 12866 ("Regulatory Planning and Review") and 13563 ("Improving Regulation and Regulatory Review") direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This proposed rule has not been designated a "significant regulatory action" under section 3(f) of E.O. 12866. Accordingly, the proposed rule has not been reviewed by the Office of Management and Budget. A draft regulatory assessment is included herein.

Affected Population

This proposed rule updates tables that list the names, pollution risk categorizations, and safe carriage requirements of liquid chemical cargoes that have already been categorized and approved for maritime transportation in bulk, either permanently or on a provisional basis. This proposed rule makes no new decisions about whether any specific chemical cargo should be approved for bulk maritime transportation, about how any specific cargo should be categorized, or about carriage requirements that should apply to any specific cargo. It simply provides updated information about cargoes that are currently approved for maritime transportation in bulk, and the cargo's pollution categorization and minimum transportation safety requirements. This proposed rule indirectly applies to the carriage of the subject cargoes from the following tank vessel populations as described in 46 CFR 30.01-5, 150.115 (with exceptions described in 46 U.S.C. 3702), 153.1, and 154.5 as described therein. All U.S.

tank vessels are included. Foreign tank vessels are, in general, exempt from this regulation when on innocent passage through U.S. waters, except for liquefied gas cargo/cargo residue or vapor carriers. Also included are self-propelled bulk cargo carrying oceangoing/non-oceangoing U.S.-flag and oceangoing foreign-flag vessels when in U.S. waters.

Costs

This proposed rule updates tables that list the names, pollution risk categorizations, and safe carriage requirements of liquid chemical cargoes that have already been categorized and approved by the United States and the IMO for maritime transportation in bulk, either permanently or on a provisional basis. Since this proposed rule simply updates tables and a table preface to reflect decisions already made under international law about which liquid chemical cargoes are approved for bulk maritime transportation, and about how those cargoes should be categorized with respect to their pollution potential, it does not change established shipping requirements and there are no private sector costs expected from this supplemental notice of proposed rule. The only party that will incur any cost will be the Coast Guard. This cost is for 40 hours total of updating work on approximately 50 chemicals per year, for an approximate annual cost of $3,200. The cost is based on 40 hours times the loaded hourly cost to the Coast Guard (wages and employee benefits) of employing a GS-13 or equivalent ($80). The source for this is Commandant Instruction 7310.1P (http://www.uscg.mil/directives/ci/7000-7999/CI_7310_1P.pdf).

In addition, the proposals would correct errors and omissions in the interim rule and bring the tables current through December 2013. This proposed rule incorporates

Coast Guard compatibility categorizations and chemical cargoes and categorizations listed by the IMO through its December 2013 MEPC Circular.

Benefits

The primary benefit of this proposed rule is to conform regulatory language to practices currently allowed by the Coast Guard through either individual letters of approval or the IBC Code as discussed above, which we expect will result in the benefit of improved service to the public through improved clarity and transparency.

B. Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601-612) (RFA), we have considered whether this proposed rule would 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. Since this proposed rule does not impose any additional direct costs, it does not impose any additional direct costs on small entities as defined by the RFA. Therefore, the Coast Guard certifies that under 5 U.S.C. 605(b), the proposed rule will not have a significant economic impact on a substantial number of small entities.

If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment to the Docket Management Facility at the address under ADDRESSES. In your comment, explain why you think it qualifies and how and to what degree this rule would economically affect it.

C. Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Public Law 104-121), we want to assist small entities in understanding this rule so that they can better evaluate its effects on them and participate in the rulemaking. If this proposed rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please consult Mr. Patrick Keffler at Patrick.A.Keffler@uscg.mil. The Coast Guard will not retaliate against small entities that question or complain about this proposed rule or any policy or action of the Coast Guard.

D. Collection of Information

This proposed rule would call for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520). This proposed rule simply updates and revises tables that list cargoes that have been approved and categorized for bulk maritime transportation, which does not involve information collection.

E. Federalism

A rule has implications for federalism under E.O. 13132 ("Federalism") if it has a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this proposed rule under that E.O. and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in the E.O. Our analysis follows.

It is well-settled that States may not regulate in categories reserved for regulation by the Coast Guard, including categories for inspected vessels. It is also well-settled, that all of the categories covered in 46 U.S.C. 3306, 3703, 7101, and 8101 (design,

construction, alteration, repair, maintenance, operation, equipping, personnel qualification, and manning of vessels), as well as the reporting of casualties and any other category in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, are within fields foreclosed from regulation by the States (See the decision of the Supreme Court in the consolidated cases of United States v. Locke and Intertanko v. Locke, 529 U.S. 89 (2000). This proposed rule amends existing regulations for inspected vessels carrying certain bulk dangerous cargoes, which, under the principles discussed in Locke, fall within the categories enumerated in 46 U.S.C. 3306 and 3703, which are themselves within fields in which the states are foreclosed from regulating. Therefore, because the States may not regulate within these categories, this rule is consistent with the fundamental federalism principles and preemption requirements described in E.O. 13132.

While it is well settled that States may not regulate in categories in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, the Coast Guard recognizes the key role that State and local governments may have in making regulatory determinations. Additionally, for rules with federalism implications and preemptive effect, Executive Order 13132 specifically directs agencies to consult with State and local governments during the rulemaking process. If you believe this proposed rule has implications for federalism under Executive Order 13132, please contact the person listed in the FOR FURTHER INFORMATION CONTACT section of this preamble.

F. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) requires

Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of $100,000,000 (adjusted for inflation) or more in any one year. Though this proposed rule will not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

G. Taking of Private Property

This proposed rule will not cause a taking of private property or otherwise have taking implications under E.O. 12630 ("Governmental Actions and Interference with Constitutionally Protected Property Rights").

H. Civil Justice Reform

This proposed 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.

I. Protection of Children

We have analyzed this proposed rule under E.O. 13045 ("Protection of Children from Environmental Health Risks and Safety Risks"). This proposed 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.

J. Indian Tribal Governments

This proposed rule does not have tribal implications under E.O. 13175 ("Consultation and Coordination with Indian Tribal Governments") because it does not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and

responsibilities between the Federal Government and Indian tribes.

K. Energy Effects

We have analyzed this proposed rule under E.O. 13211 ("Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use"). We have determined that it is not a "significant energy action" under that E.O. because it is not a "significant regulatory action" under E.O. 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under E.O. 13211.

L. Technical Standards

The National Technology Transfer and Advancement Act (15 U.S.C. 272 note) directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through the OMB, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies. This proposed rule does not use technical standards. Therefore, we did not consider the use of voluntary consensus standards.

M. Environment

We have analyzed this proposed rule under Department of Homeland Security Management Directive 023-01 and Commandant Instruction M16475.lD, which guide the Coast Guard in complying with the National Environmental Policy Act of 1969

(NEPA)(42 U.S.C. 4321-4370f), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. A preliminary environmental analysis checklist supporting this determination is available in the docket where indicated under the "Public Participation and Comments" section of this preamble. This proposed rule involves administrative updates of existing chemical transport regulations and updates provisions relating to the chemical properties of liquid chemical cargoes approved for maritime transportation in bulk. The update incorporates changes in how approved cargoes are categorized by their chemical properties. This proposed rule promotes the Coast Guard's maritime safety and stewardship missions. It is therefore included in the Coast Guard's Commandant Instruction (COMDTINST) M16475.1D, Figure 2-1, which includes categorical exclusions (CEs) under categories (34)(a), "regulations which are editorial or procedural, such as those updating addresses or establishing application procedures," and 34 (d), "regulations concerning manning, documentation, admeasurement, inspection, and equipping of vessels," as well as in the "Appendix to National Environmental Policy Act: Coast Guard Procedures for Categorical Exclusions, Notice of Final Agency Policy" (see 67 FR 48243, July 23, 2002) under paragraph 6 (a), "regulations concerning vessel operation safety standards…equipment approval, and/or equipment carriage requirements…and visual distress signals." We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

List of Subjects

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 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 proposes to amend 46 CFR parts 30, 150, and 153, as amended by the interim rule published on August 16, 2013 (78 FR 50148), as follows:

SUBCHAPTER D – TANK VESSEL

PART 30—GENERAL PROVISIONS

1. Revise the authority citation for part 30 to read as follows:

Authority: 46 U.S.C. 2103, 3306, 3703; Pub. L. 103-206, 107 Stat. 2439; 49 U.S.C. 5103, 5106; Department of Homeland Security Delegation No. 0170.1, para. II (92.a), (92.b); Section 30.01-2 also issued under the authority of 44 U.S.C. 3507; Section 30.01-05 also issued under the authority of Sec. 4109, Pub. L. 101-380, 104 Stat. 515.

2. Revise § 30.25-1, as amended by the interim rule published on August 16, 2013 (78 FR 50148), effective January 16, 2017, as delayed at 79 FR 68132, November 14, 2014, to read as follows:

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

(a) Table 30.25-1 lists flammable or combustible cargoes that, when transported in bulk, must be in vessels certificated under this subchapter D.

(b) A mixture or blend of two or more cargoes appearing in Table 30.25-1 may be transported under this subchapter D.

(c) A mixture or blend of one or more cargoes appearing in Table 30.25-1 and one or more cargoes appearing in Table 2, 46 CFR part 153, may be carried under this subchapter D if the mixture is flammable or combustible.

(d) Any mixture containing one or more cargoes categorized by the International Maritime Organization (IMO) and listed in Table 30.25-1 as a category X, Y, or Z noxious liquid substance (NLS) may be carried in bulk—

(1) Under this subchapter D if the vessel is not regulated under 46 CFR part 153; or

(2) Under part 153 if the vessel is regulated under that part; or alternatively under 33 CFR part 151 if the cargo is listed in 33 CFR 151.49; or

(3) Under 33 CFR part 151 if the cargo is listed in 33 CFR 151.47.

Table 30.25–1–List of Flammable and Combustible Bulk Liquid Cargoes

See NOTES at the end of the Table for explanation of symbols and terms used. See Table 2, 46 CFR part 153, for additional cargoes that may be carried by tank barge.

Cargo Name	**IMO Annex II Pollution Category**
Acetochlor	**X**
Acetone	Z
Acetophenone	#
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	Y
Alcohol(C6–C17)(secondary) poly(3-6)ethoxylates	Y

Alcohol(C6–C17)(secondary) poly(7-12)ethoxylates	Y
Alcohol(C9–C11) poly(2.5-9)ethoxylate	Y
Alcohol(C12–C15) poly(...)ethoxylates, *see* Alcohol(C12–C16) poly(...) ethoxylates	…….
Alcohol(C12–C16) poly(1-6)ethoxylates	Y
Alcohol(C12–C16) poly(7-19)ethoxylates	Y
Alcohol(C12–C16) poly(20+)ethoxylates	Y
Alcohols (C13+)	Y
Alcoholic beverages, n.o.s.	Z
Acrylic acid / ethenesulphonic acid copolymer with phosphonate groups, sodium salt solution	Z
Aliphatic oil	I
Alkanes (C6–C9)	X
Iso-and cyclo-alkanes (C10–C11)	Y
Iso-and cyclo-alkanes (C12+)	Y
n-Alkanes (C10+)	Y
Alkaryl polyethers (C9–C20)	Y
Alkenyl(C11+) amide	**X**
Alkenyl(C8+) amine, Alkenyl(C12+) acid ester mixture	#
Alkyl acrylate-Vinylpyridine copolymer in toluene	**Y**
Alkylbenzene, alkylindane, alkylindene mixture (each C12-C17)	**Z**
Alkyl(C3-C4) benzenes	**Y**
Alkyl(C5-C8) benzenes	**X**
Alkyl(C8-C9) phenylamine in aromatic solvents	**Y**
Alkyl(C9+) benzenes	Y
Alkyl(C11–C17) benzene sulfonic acid	**Y**
Alkylbenzene sulfonic acid (4% or less)	#
Alkyl dithiocarbamate (C19–C35)	**Y**
Alkyl dithiothiadiazole (C6–C24)	Y
Alkyl ester copolymer (C4–C20)	Y
Alkyl(C7–C11)phenol poly(4-12) ethoxylate	Y
Alkyl phenol sulfide (C8–C40), *see* Alkyl(C8–C40) phenol sulfide	…….
Alkyl(C8–C40) phenol sulfide	Z

Alkyl(C8-C9) phenylamine in aromatic solvents	**Y**
Alkyl(C9–C15) phenyl propoxylate	Z
Alkyl(C8-C10) polyglucoside solution (65% or less)	**Y**
Alkyl(C12-C14) polyglucoside solution (55% or less)	**Y**
Alkyl(C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	**Y**
Alkyl(C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution (55% or less)	**Y**
Alkyl(C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	**Y**
Alkyl(C10-C20, saturated and unsaturated) phosphite	**Y**
n-Alkyl phthalates, see individual phthalates	…….
Alkyl sulfonic acid ester of phenol	Y
Aluminium hydroxide, sodium	Y
Aminoethyldiethanolamine/Aminoethylethanolamine solution	Z
2-Amino-2-methyl-1-propanol	**Z**
Amyl acetate (all isomers)	Y
Amyl alcohol (iso-, n-, sec-, primary, tert-)	Z
tert-Amyl ethyl ether	**Z**
tert-Amyl methyl ether	X
Amyl methyl ketone, see Methyl amyl ketone	…….
Amylene, see Pentene (all isomers)	……..
Animal acid oil	#
Animal and Fish acid oils and distillates, n.o.s.	#
Animal and Fish oils, n.o.s.	#
Animal oil	#
Aromatic oil	I
Aryl polyolefins (C11–C50)	Y
Asphalt	I
Asphalt blending stocks:	
Roofers flux	I
Straight run residue	I
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95-120°C)	**X**
Barium long-chain alkyl (C8–C14) phenate sulfide	#

Beechnut oil	#
Behenyl alcohol, see Alcohols (C13+)	…….
Benzene tricarboxylic acid, trioctyl ester	Y
Benzyl acetate	**Y**
Benzyl alcohol	Y
Bis(2-ethylhexyl) terephthalate	Y
Brake fluid base mix: Poly(2-8)alkylene(C2–C3) glycols/Polyalkylene(C2–C10) glycols monoalkyl(C1–C4) ethers and their borate esters	Z
Butane	LFG
Butene, see Butylene	…….
Butene oligomer	X
2-Butoxyethanol (58%)/Hyperbranched polyesteramide (42%) (mixture)	Y
Butyl acetate (all isomers)	Y
Butyl alcohol (iso-, n-, sec-, tert-), see Butyl alcohol (all isomers)	…….
Butyl alcohol (all isomers)	Z
Butylbenzene (all isomers)	**X**
Butyl benzyl phthalate	X
Butyl butyrate (all isomers)	**Y**
Butylene	LFG
Butylene glycol	Z
1,3-Butylene glycol, see Butylene glycol	…….
iso-Butyl formate	#
n-Butyl formate	#
Butyl heptyl ketone	#
Butyl methyl ketone, see Methyl butyl ketone	…….
n-Butyl propionate	Y
Butyl stearate	#
Butyl toluene	#
gamma-Butyrolactone	Y
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture	#

Calcium alkyl salicylate, see Calcium long-chain alkyl salicylate (C13+)	…….
Calcium long-chain alkaryl sulfonate (C11–C50)	#
Calcium long-chain alkyl phenate (C8–C40), see Calcium long-chain alkyl(C5–C10) phenate *or* Calcium long-chain alkyl(C11–C40) phenate	…….
Calcium long-chain alkyl(C5–C10) phenate	Y
Calcium long-chain alkyl(C11–C40) phenate	Y
Calcium long-chain alkyl phenolic amine (C8–C40)	#
Calcium long-chain alkyl salicylate (C13+)	Y
Camelina oil	Y
Candelilla wax, see Waxes	…….
Caprolactam solutions, see epsilon-Caprolactam (molten or aqueous solutions)	…….
epsilon-Caprolactam (molten or aqueous solutions)	**Z**
Carnauba wax, see Waxes	…….
Cetyl alcohol, see Alcohols (C13+)	…….
Cetyl- stearyl alcohol, see Alcohols (C13+)	…….
Chlorinated paraffins (C10–C13)	**X**
1-(4-Chlorophenyl)-4,4-dimethyl-pentan-3-one	**Y**
Citric acid (70% or less)	**Z**
Clarified oil	I
Coal oil	#
Coconut oil fatty acid methyl ester	**Y**
Cod liver oil	#
Copper salt of long-chain (C17+) alkanoic acid	Y
Corn acid oil	#
Cotton seed acid oil	#
Cotton seed, fatty acid, see Cotton seed oil, fatty acid	…….
Cotton seed oil, fatty acid	#
Crude Isononylaldehyde	#
Crude Isopropanol	Z
† Crude oil	I
Cumene , see Propylbenzene (all isomers)	…….
Cycloheptane	**X**

Cyclohexane	Y
Cyclohexanol	Y
Cyclohexyl acetate	**Y**
1,3-Cyclopentadiene dimer (molten)	**Y**
Cyclopentane	**Y**
Cyclopentene	**Y**
p-Cymene	Y
Dark mixed acid oil	#
Decahydronaphthalene	Y
iso-Decaldehyde	#
n-Decaldehyde	#
Decane, see n-Alkanes (C10+)	…….
Decanoic acid	**X**
Decene	X
Decyl acetate	#
Decyl alcohol (all isomers)	Y
n-Decylbenzene, see Alkyl(C9+)benzenes	…….
Detergent alkylate, see Alkyl(C9+)benzenes	…….
Diacetone alcohol	Z
Dialkyl(C10–C14) benzenes, see Alkyl(C9+) benzenes	…….
Dialkyl(C8–C9) diphenylamines	Z
Dialkyl(C7–C13) phthalates	X
Including:	
Diisodecyl phthalate	
Diisononyl phthalate	
Dinonyl phthalate	
Ditridecyl phthalate	
Diundecyl phthalate	
Dibutyl carbinol, see Nonyl alcohol (all isomers)	…….
Dibutyl hydrogen phosphonate	**Y**
2,6-Di-ter*t*-butylphenol	**X**
Dibutyl phthalate	**X**
ortho-Dibutyl phthalate, see Dibutyl phthalate	……..
Dibutyl terephthalate	**Y**

Dicyclopentadiene, see 1,3-Cyclopentadiene dimer (molten)	…….
Diesel oil	I
Diethylbenzene	Y
Diethylene glycol	Z
Diethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
Diethylene glycol butyl ether acetate, see Poly(2-8) alkylene glycol monoalkyl(C1–C6) ether acetate	…….
Diethylene glycol diethyl ether	Z
Diethylene glycol ethyl ether, see Poly(2-8) alkylene glycol monoalkyl(C1–C6) ether	…….
Diethylene glycol ethyl ether acetate, see Poly(2-8) alkylene glycol monoalkyl (C1–C6) ether acetate	…….
Diethylene glycol n-hexyl ether, see Poly (2-8) alkylene glycol monoalkyl (C1–C6) ether	…….
Diethylene glycol methyl ether, see Poly(2-8) alkylene glycol monoalkyl (C1–C6) ether	…….
Diethylene glycol methyl ether acetate, see Poly(2-8) alkylene glycol monoalkyl (C1–C6) ether acetate	…….
Diethylene glycol phenyl ether	#
Diethylene glycol phthalate	Y
Diethylene glycol propyl ether, see Poly(2-8) alkylene glycol monoalkyl (C1–C6) ether	…….
Di-(2-ethylhexyl) adipate	Y
Di-(2-ethylhexyl)phthalate, see Dioctyl phthalate	…….
Diethyl phthalate	Y
Diglycidyl ether of bisphenol A	X
Diglycidyl ether of bisphenol F	**Y**
Diheptyl phthalate	Y
Di-n-hexyl adipate	**X**
Dihexyl phthalate	Y
Diisobutyl carbinol, see Nonyl alcohol (all isomers)	…….
Diisobutylene	Y
Diisobutyl ketone	Y
Diisobutyl phthalate	X

Diisodecyl phthalate, see Dialkyl (C7–C13) phthalates	…….
Diisononyl adipate	Y
Diisononyl phthalate, see Dialkyl (C7–C13) phthalates	…….
Diisooctyl phthalate	Y
Diisopropylbenzene (*all isomers*)	X
Diisopropylnaphthalene	Y
Dimethyl adipate	X
Dimethylbenzene, see Xylenes	…….
Dimethyl glutarate	Y
Dimethyl octanoic acid	**Y**
Dimethyl phthalate	Y
Dimethylpolysiloxane	Y
2,2-Dimethylpropane-1,3-diol (molten or solution)	Z
Dimethyl succinate	Y
Dinonyl phthalate	Y
Dioctyl phthalate	X
Dipentene	Y
Diphenyl	X
Diphenylamine (molten)	**Y**
Diphenylamines, alkylated	**Y**
Diphenyl/Diphenyl ether mixtures	X
Diphenyl ether	X
Diphenyl ether/Diphenyl phenyl ether mixture	X
Diphenylol propane-epichlorohydrin resins	**X**
Dipropylene glycol	Z
Dipropylene glycol butyl ether, see Poly (2-8) alkylene glycol monoalkyl(C1–C6) ether	…….
Dipropylene glycol dibenzoate	#
Dipropylene glycol methyl ether, see Poly (2-8)alkylene glycol monoalkyl (C1–C6) ether	…….
Dithiocarbamate ester (C7-C35)	**X**
Distillates:	
Flashed feed stocks	I
Straight run	I
Diundecyl phthalate	Y

Dodecane (all isomers)	Y
Dodecanol, see Dodecyl alcohol	…….
Dodecene (all isomers)	X
Dodecyl alcohol	Y
Dodecyl benzene, see Alkyl (C9+) benzenes	…….
Dodecyl hydroxypropyl sulfide	X
Dodecyl phenol	X
Dodecyl xylene	Y
Drilling brines (containing zinc salts) (if flammable or combustible)	**X**
Drilling brines, including: calcium bromide solution, calcium chloride solution and sodium chloride solution (if flammable or combustible)	**Z**
Drilling mud (low toxicity) (if flammable or combustible)	#
Ethane	LFG
ETBE, see Ethyl tert-butyl ether	…….
2-Ethoxyethyl acetate	Y
Ethoxylated alkyloxy alkyl amine, see Ethoxylated long-chain (C16+) alkyloxyalkylamine	…….
Ethoxy triglycol (crude)	#
Ethyl acetate	Z
Ethyl acetoacetate	Z
Ethyl alcohol	Z
Ethyl amyl ketone	Y
Ethylbenzene	Y
Ethyl butanol	#
Ethyl tert-butyl ether	Y
Ethyl butyrate	Y
Ethyl cyclohexane	Y
Ethylene	**LFG**
S-Ethyl dipropylthiocarbamate	**Y**
Ethylene carbonate	Z
Ethylene glycol	Y
Ethylene glycol acetate	Y
Ethylene glycol butyl ether acetate	Y

Ethylene glycol diacetate	Y
Ethylene glycol dibutyl ether	#
Ethylene glycol ethyl ether acetate, see 2-Ethoxyethyl acetate	…….
Ethylene glycol methyl butyl ether	#
Ethylene glycol methyl ether acetate	Y
Ethylene glycol phenyl ether	Z
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	Z
Ethyl-3-ethoxypropionate	Y
2-Ethylhexaldehyde, see Octyl aldehydes	…….
2-Ethylhexanoic acid	Y
Ethylhexoic acid, see 2-Ethylhexanoic acid	…….
2-Ethylhexanol, see Octanol (all isomers)	…….
Ethyl hexyl phthalate	#
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol, (C8–C10) ester	Y
Ethyl propionate	Y
Ethyl toluene	Y
Fatty acid (saturated, C13+)	Y
Fatty acids, (C16+)	**Y**
Fatty acids, essentially linear (C6–C18) 2-ethylhexyl ester	**Y**
Fish acid oil	#
Formamide	Y
Furfuryl alcohol	Y
† Gas oil, cracked	I
Gas oil, high pour	I
Gas oil, low pour	I
Gas oil, low sulfur	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
Gasoline (Natural gas condensate)	I
Glucitol/glycerol blend propoxylated (containing 10% or more amines)	Y
Glycerine	Z
Glycerine (83%), Dioxanedimethanol (17%) mixture	#
Glycerol, see Glycerine	…….
Glycerol ethoxylated	**OS**
Glycerol monooleate	Y
Glycerol polyalkoxylate	#
Glycerol, propoxylated and ethoxylated	**Z**
Glycerol/sucrose blend propoxylated and ethoxylated	**Z**
Glyceryl triacetate	Z
Glycidyl ester of tridecyl acetic acid, see Glycidyl ester of C10 trialkylacetic acid	…….
Glycidyl ester of versatic acid, see Glycidyl ester of C10 trialkylacetic acid	…….
Glycidyl ester of C10 trialkylacetic acid	Y
Glycol diacetate, see Ethylene glycol diacetate	…….
Glycol triacetate, see Glyceryl triacetate	…….
Glyoxal solution (40% or less)	Y
Glyphosate solution (not containing surfactant)	Y
Grape Seed Oil	Y
Groundnut acid oil	#
Groundnut oil	**Y**
Hazelnut oil	#
Heartcut distillate	I
Heptadecane, see n-Alkanes (C10+)	…….
Heptane (all isomers)	X
Heptanoic acid, see n-Heptanoic acid	…….

***n*-Heptanoic acid**	**Z**
Heptanol (all isomers)	Y
Heptene (all isomers)	Y
Heptyl acetate	Y
Herbicide (C15H22NO2Cl), see N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methylchloroacetanilide	…….
Hexadecanol, see Alcohol (C 13+)	…….
1-Hexadecylnaphthalene/1,4-Bis(hexadecyl)naphthalene mixture	Y
Hexaethylene glycol, see Polyethylene glycol	…….
Hexamethylene glycol	Z
Hexamethylenetetramine solutions	Z
Hexane (all isomers)	Y
1,6-Hexanediol, distillation overheads	**Y**
Hexanoic acid	Y
Hexanol	Y
Hexene (all isomers)	Y
Hexyl acetate	Y
Hexylene glycol	Z
Hydrogenated starch hydrolysate	**OS**
2-Hydroxy-4-(methylthio)butanoic acid	Z
Hydroxy terminated polybutadiene, *see* Polybutadiene, hydroxy terminated	…….
Illipe oil	**Y**
Isoamyl alcohol	**Z**
Isobutyl alcohol	**Z**
Isobutyl formate	**Z**
Isobutyl methacrylate	**Z**
Isopropyl acetate	**Z**
Isopropyl alcohol	**Z**
Isopropylcyclohexane	**Y**
Jatropha oil	**Y**
Jet fuels:	
† JP-4	I
JP-5 (*kerosene, heavy*)	I

JP-8	I
Kerosene	I
Lactic acid	Z
Lanolin oil	#
Lard acid oil	#
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber	**Z**
Lauric acid	**X**
Lecithin	OS
Long-chain alkaryl polyether (C11–C20)	Y
Long-chain alkaryl sulfonic acid (C16–C60)	Y
Long-chain alkylphenate/Phenol sulfide mixture	Y
Lubricating oil	I
L-Lysine solution (60% or less)	**Z**
Magnesium long-chain alkaryl sulfonate (C11–C50)	Y
Magnesium long-chain alkyl phenate sulfide (C8–C20)	#
Magnesium long-chain alkyl salicylate (C11+)	Y
Magnesium nonyl phenol sulfide, see Magnesium long-chain alkyl phenate sulfide (C8–C20)	…….
Maleic anhydride/sodium allylsulphonate copolymer solution	Z
Mango kernel oil	**Y**
2-Mercaptobenzothiazol (*in liquid mixtures*)	#
Methane	LFG
3-Methoxy-1-butanol	Z
3-Methoxybutyl acetate	Y
1-Methoxy-2-propyl acetate	#
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methylchloroacetanilide	X
Methoxy triglycol , see Poly (2-8) alkylene glycol monoalkyl (C1–C6) ether	…….
Methyl acetate	Z
Methyl acetoacetate	Z
Methyl alcohol	Y
Methylamyl acetate	Y
Methylamyl alcohol	Z

Methyl amyl ketone	Z
Methyl butanol, see the amyl alcohols	…….
Methylbutenol	Y
Methyl tert-butyl ether	Z
Methyl butyl ketone	Y
Methylbutynol	**Z**
Methyl butyrate	Y
Methylcyclohexane	**Y**
Methylcyclopentadiene dimer	**Y**
Methyl 3-(3,5 di-tert-butyl-4-hydroxyphenyl) propionate crude melt	**[Y]**
Methyl ethyl ketone	Z
Methyl formate	Z
N-Methylglucamine solution (70% or less)	Z
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	Z
Methyl heptyl ketone	#
2-Methyl-2-hydroxy-3-butyne	Z
Methyl isobutyl carbinol, see Methyl amyl alcohol	…….
Methyl isobutyl ketone	Z
3-Methyl-3-methoxybutanol	Z
3-Methyl-3-methoxybutyl acetate	#
Methyl pentene, see Hexene (all isomers)	…….
Methyl tert-pentyl ether, see tert-Amyl methyl ether	…….
2-Methyl-1,3-propanediol	Z
Methyl propyl ketone	Z
2-Methylpyridine	Z
3-Methylpyridine	Z
4-Methylpyridine	Z
N-Methyl-2-pyrrolidone	Y
Methyl salicylate	**Y**
Metolachlor, see N-(2-Methoxy-1-methylethyl)-2-ethyl-6-methylchloroacetanilide	…….
Mineral oil	I
Mineral seal oil	I
Mineral spirits	I

Mixed acid oil	#
Mixed general acid oil	#
Mixed hard acid oil	#
Mixed soft acid oil	#
Motor oil	I
MTBE, see Methyl tert-butyl ether	…….
Myrcene	X
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
Naphthenic acid	#
Neatsfoot oil	#
Neodecanoic acid	**Y**
Nitrilotriacetic acid, trisodium salt solution	**Y**
Nitroethane	**Y**
Nitroethane(80%)/ Nitropropane(20%)	**Y**
Nitroethane, 1-Nitropropane (each 15% or more) mixture	**Y**
Nitropropane (60%)/Nitroethane (40%) mixture	Y
Nonane (all isomers)	X
Nonanoic acid (all isomers)	Y
Nonanoic, Tridecanoic acid mixture	#
Nonene (all isomers)	Y
Nonyl acetate	#
Nonyl alcohol (all isomers)	Y
Nonyl methacrylate monomer	Y
Nonylphenol	X
Nonylphenol poly(4+)ethoxylate	Y
Nonyl phenol sulfide (90% or less), see Alkyl (C8–C40) phenol sulfide	…….

Noxious liquid, F, (2) n.o.s. (“trade name” contains “principle components”) ST 1, Cat X	X
Noxious liquid, F, (4) n.o.s. (“trade name” contains “principle components”) ST 2, Cat X	X
Noxious liquid, F, (6) n.o.s. (“trade name” contains “principle components”) ST 2, Cat Y	Y
Noxious liquid, F, (8) n.o.s. (“trade name” contains “principle components”) ST 3, Cat Y	Y
Noxious liquid, F, (10) n.o.s. (“trade name” contains “principle components”) ST 3, Cat Z	Z
Noxious liquid, (11) n.o.s. (“trade name” contains “principle components”) Cat Z (if flammable or combustible)	Z
Non noxious liquid, (12) n.o.s. (“trade name” contains “principle components”) Cat OS (if flammable or combustible)	OS
Nutmeg butter oil	#
Octadecanol, see Alcohols (C13+)	…….
Octadecene, see the olefin or alpha-olefin entries	…….
Octadeceneamide solution	#
Octamethylcyclotetrasiloxane	**Y**
Octane (all isomers)	X
Octanoic acid (all isomers)	Y
Octanol (all isomers)	Y
Octene (all isomers)	Y
Octyl acetate, see n-Octyl acetate	…….
n-Octyl acetate	**Y**
Octyl alcohol (iso-, n-), see Octanol (all isomers)	…….
Octyl aldehydes	Y
Octyl decyl adipate	Y
Octyl phthalate, see Dioctyl phthalate	…….
Oil, edible: Poppy seed	I
Oil, fuel:	
No. 1 (*kerosene*)	I
No. 1-D	I
No. 2	I
No. 2-D	I

No. 4	I
No. 5	I
No. 6	I
Oiticica oil	#
alpha-Olefins (C6–C18) mixtures	X
alpha-Olefins (C13–C18) mixtures, see alpha-Olefins (C6–C18)	…….
Olefins (C13+, all isomers)	Y
Olefin-Alkyl ester copolymer (molecular weight 2000+)	Y
Olefin mixtures (C5–C7)	Y
Olefin mixtures (C5–C15)	X
Olefin Mixture (C7-C9) C8 rich, stabilized	X
Oleic acid	Y
Oleyl alcohol, see Alcohols (C13+)	…….
Orange juice (concentrated)	**OS**
Palm kernel acid oil, methyl ester	#
Palm kernel olein	**Y**
Palm kernel stearin	**Y**
Palm mid-fraction	**Y**
Palm kernel fatty acid distillate	**Y**
Palm oil fatty acid methyl ester	**Y**
Palm olein	**Y**
Palm stearin	**Y**
Paraffin wax	Y
n-Paraffins (C10–C20), see n-Alkanes (C10+)	……..
Paraldehyde-ammonia reaction product	Y
Peanut oil, see Groundnut oil	…….
Peel oil (oranges and lemons)	#
Penetrating oil	I
Pentadecanol, see Alcohols (C13+)	…….
1,3-Pentadiene	Y
1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures	Y
Pentaethylene glycol, see Polyethylene glycols	……..
Pentane (all isomers)	Y

Pentanoic acid	Y
Pentene (all isomers)	Y
n-Pentyl propionate	Y
Perilla oil	#
Petrolatum	Y
1-Phenyl-1-xylyl ethane	Y
Phosphate esters, alkyl (C12–C14) amine	Y
Phosphosulfurized bicyclic terpene	#
Pilchard oil	#
Pinene, see the alpha- or beta- isomers	…….
alpha-Pinene	X
beta-Pinene	X
Pine oil	**X**
Piperazine (70% or less)	**Y**
Polyalkyl(C18–C22) acrylate in xylene	**Y**
Polyalkylene glycols, polyalkylene glycol monoalkyl ethers mixtures	**#**
Polyalkylalkenaminesuccinimide, molybdenum oxysulfide	**Y**
Polyalkylene glycol butyl ether, *see* Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
Poly(2-8)alkylene glycol monoalkyl (C1–C6) ether	Z
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	

Poly(2-8)alkylene glycol monoalkyl (C1–C6) ether acetate	Y
Including:	
Diethylene glycol butyl ether acetate	
Diethylene glycol ethyl ether acetate	
Diethylene glycol methyl ether acetate	
Polyalkylene oxide polyol	#
Polyalkyl(C10–C20) methacrylate	Y
Polyalkyl(C10-C18) methacrylate/ethylene-propylene copolymer mixture	**Y**
Polybutadiene, hydroxy terminated	#
Polybutene	Y
Polybutenyl succinimide	Y
Poly(2+)cyclic aromatics	**X**
Polydimethylsiloxane, see Dimethylpolysiloxane	…….
Polyether (molecular weight 1350+)	Y
Polyether polyols	#
Polyethylene glycol	Z
Polyethylene glycol dimethyl ether	Z
Poly(ethylene glycol) methylbutenyl ether (MW>1000)	**Z**
Polyethylene glycol monoalkyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
Polyglycerine, sodium salt solution (containing less than 3% sodium hydroxide)	Z
Polyglycerol	#
Polyisobutenamine in aliphatic (C10–C14) solvent	**Y**
Polyisobutenyl anhydride adduct	Z
Poly(4+)isobutylene (MW>224)	X
Polyisobutylene (MW≤224)	Y
Polymerized esters	#
Polyolefin amide alkeneamine (C17+)	Y
Polyolefin amide alkeneamine (C28+), see Polyolefin amide alkeneamine (C17+)	…….
Polyolefin amide alkeneamine borate (C28–C250)	Y
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture	#

Polyolefin amide alkeneamine polyol	Y
Polyolefinamine (C28–C250)	**Y**
Polyolefinamine in alkyl (C2–C4) benzenes	**Y**
Polyolefinamine in aromatic solvent	**Y**
Polyolefin aminoester salts (molecular weight 2000+)	**Y**
Polyolefin anhydride	Y
Polyolefin ester (C28–C250)	Y
Polyolefin phenolic amine (C28–C250)	Y
Polyolefin phosphorosulfide, barium derivative (C28–C250)	Y
Poly(20)oxyethylene sorbitan monooleate	Y
Poly(5+)propylene	Y
Polysiloxane	Y
Polypropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
Polysiloxane	Y
Poppy oil	#
Potassium oleate	Y
Potassium salt of polyolefin acid	#
Propane	LFG
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer solution	Y
Propionaldehyde	Y
n-Propoxypropanol , see Propylene glycol monoalkyl ether	…….
n-Propyl acetate	Y
n-Propyl alcohol	Y
iso-Propylbenzene, see Propylbenzene (all isomers)	…….
n-Propylbenzene, see Propylbenzene (all isomers)	…….
Propylbenzene (all isomers)	Y
[iso-propylcyclohexane]	[C]
Propylene	LFG
Propylene-Butylene copolymer	#
Propylene carbonate	Z
Propylene dimer	#
Propylene glycol	Z

Propylene glycol n-butyl ether, see Propylene glycol monoalkyl ether	…….
Propylene glycol ethyl ether, see Propylene glycol monoalkyl ether	…….
Propylene glycol methyl ether, see Propylene glycol monoalkyl ether	…….
Propylene glycol methyl ether acetate	Z
Propylene glycol monoalkyl ether	Z
Including:	
n-Propoxypropanol	
Propylene glycol n-butyl ether	
Propylene glycol ethyl ether	
Propylene glycol methyl ether	
Propylene glycol propyl ether	
Propylene glycol phenyl ether	Z
Propylene glycol propyl ether, see Propylene glycol monoalkyl ether	…….
Propylene polymer (*in liquid mixtures*)	#
Propylene tetramer	X
Propylene trimer	Y
Pseudocumene, see Trimethylbenzenes	…….
Raisin seed oil	#
Rapeseed acid oil	#
Rape seed oil fatty acid methyl esters	**Y**
Residual oil	I
Road oil	I
Rosin	**Y**
Rosin oil	#
Rum, see Alcoholic beverages, n.o.s.	…….
Safflower acid oil	#
Salad oil	#
Seal oil	I
Sesame oil	#
Soapstock oil	#

Sodium acetate, Glycol, Water mixture (containing 1% or less, Sodium hydroxide) (if flammable or combustible)	#
Sodium benzoate	Z
Sodium bromide solution (less than 50%)	Y
Sodium carboxylate solution	Y
Sodium long-chain alkyl salicylate (C13+)	#
Sodium methylate 21-30% in methanol	**Y**
Sodium thiocyanate solution (56% or less)	**Y**
Soya acid oil	#
Soybean oil fatty acid methyl ester	Y
Soybean oil (epoxidized)	#
Spindle oil	I
Stearic acid, see Fatty acid (saturated, C13+)	…….
Stearyl alcohol, see Alcohols (C13+)	…….
Sulfohydrocarbon (C3–C88)	Y
Sulfohydrocarbon, long-chain (C18+) alkylamine	#
Sulfolane	Y
Sulfurized fat (C14–C20)	Z
Sulfurized polyolefinamide alkene(C28–C250) amine	Z
Sunflower oil, see Sunflower seed acid oil	…….
Sunflower seed acid oil	#
Tall oil, crude	**Y**
Tall oil, distilled	**Y**
Tall oil, fatty acid	#
Tall oil pitch	Y
Tall oil soap, crude	Y
Tallow	Y
Tallow alcohol, see Alcohols (C13+)	…….
Tallow alkyl nitrile	#
Tallow fatty acid	Y
TAME, see tert-Amyl methyl ether	…….
Tetradecanol, see Alcohols (C13+)	…….
Tetradecene, see alpha-Olefins (C6-C18) mixtures, Olefin mixtures (C5–C15), or Olefins (C13+, all isomers)	…….
Tetradecylbenzene, see Alkyl(C9+)benzenes	…….

Tetraethylene glycol	Z
Tetraethyl silicate monomer/oligomer (20% in ethanol)	**Z**
Tetrahydronaphthalene	Y
Tetramethylbenzene (all isomers)	X
Tetrapropylbenzene, see Alkyl(C9+)benzenes	…….
Toluene	Y
Transformer oil	I
Triarylphosphate, see Triisopropylated phenyl phosphates	…….
Tributyl phosphate	Y
Tridecane	Y
Tridecanoic acid	Y
Tridecanol, see Alcohols (C13+)	…….
Tridecene, see Olefins (C13+, all isomers)	…….
Tridecyl acetate	Y
Tridecylbenzene, see Alkyl(C9+)benzenes	…….
Triethylbenzene	X
Triethylene glycol	Z
Triethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
Triethylene glycol butyl ether mixture	#
Triethylene glycol di-(2-ethylbutyrate)	#
Triethylene glycol ether mixture	#
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	Z
Triisooctyl trimellitate	#
Triisopropanolamine	Z
Triisopropylated phenyl phosphates	X
Trimethylamine solution (30% or less)	Z
Trimethylbenzene (all isomers)	X
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	Y
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	**Y**
2,2,4-Trimethyl-3-pentanol-1-isobutyrate	#

Tripropylene, see Propylene trimer	…….
Tripropylene glycol	Z
Tripropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	…….
1,3,5-Trioxane	Y
Trixylenyl phosphate, see Trixylyl phosphate	…….
Trixylyl phosphate	X
Tucum oil	#
Turbine oil	I
Turpentine	X
† *Turpentine substitute, see* White spirit (low (15–20%) aromatic)	…….
Undecanoic acid	Y
1-Undecanol, see Undecyl alcohol	…….
Undecene, see 1-Undecene	…….
1-Undecene	X
1-Undecyl alcohol, see Undecyl alcohol	……..
Undecyl alcohol	X
Undecylbenzene, see Alkyl(C9+)benzenes	…….
Vegetable oils, n.o.s.	#
Vegetable protein solution (hydrolyzed) (if flammable or combustible)	**OS**
Vinyltoluene	Y
Walnut oil	#
Waxes	Y
† *White spirit, see* White spirit (low (15–20%) aromatic)	…….
† White spirit, low (15–20%) aromatic	Y
Wine, see Alcoholic beverages, n.o.s.	…….
Wood lignin with sodium acetate/oxalate	Z
Xylenes	Y
Xylenes/Ethylbenzene (10% or more) mixture	**Y**
Zinc alkaryl dithiophosphate (C7–C16)	Y
Zinc alkenyl carboxamide	Y
Zinc alkyl dithiophosphate (C3–C14)	Y

Notes:

"#" = Noxious liquid substance status is undetermined – see 46 CFR 153.900(c) for shipping on an oceangoing vessel.

"†" = Marine occupational safety and health regulations for benzene, 46 CFR part 197, subpart C, may apply to this cargo.

"[ ]" = Provisional categorization to which the United States is party.

"@" = The noxious liquid substance category has been assigned by the U.S. Coast Guard, in absence of one assigned by the IMO. The category is based on a GESAMP Hazard Profile or by analogy to a closely related product having a noxious liquid substance assigned.

Entries in bold were added from the March 2012 Annex to the 2007 edition of the IBC Code.

"Cat" = Pollution category.

"F" = Flammable (flash point less than or equal to 60 degrees C (140 degrees F).

"I" = An "oil" under MARPOL Annex I.

Italicized words are not part of the cargo name but may be used in addition to the cargo name.

"n.o.s." = Not otherwise specified.

"OS" = An "other cargo" considered at present to present no harm to marine resources, human health, amenities, or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations.

"see" = A redirection to the preferred, alternative cargo name – for example in "*Diethyl ether, see* Ethyl ether," the pollution category for "diethyl ether" will be found under the preferred, alternative cargo name "ethyl ether."

"ST" = Ship type.

"X," "Y," and "Z" = Noxious liquid substance categories under MARPOL Annex II.

PART 150—COMPATIBILITY OF CARGOES

3. Revise the authority citation for part 150 to read as follows:

Authority: 46 U.S.C. 2103, 3306, 3703; Department of Homeland Security Delegation No. 0170.1. Section 150.105 issued under 44 U.S.C. 3507; Department of Homeland Security Delegation No. 0170.1, para. II (92.a), (92.b).

4. Revise Table I to Part 150, as amended by the interim rule published on August 16, 2013 (78 FR 50148), effective January 16, 2017, as delayed at 79 FR 68132, November 14, 2014, to read as follows:

Table I to Part 150—Alphabetical List of Cargoes

Chemical Name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Acetaldehyde	19		AAD	
Acetic acid	4	2	AAC	
Acetic anhydride	11	2	ACA	
Acetochlor	10		ACG	
Acetone	18	2	ACT	
Acetone cyanohydrin	0	1, 2	ACY	
Acetonitrile	37		ATN	
Acetonitrile (low purity grade)	37		AIL	
Acetophenone	18		ACP	
Acid oil mixture from soybean, corn (maize) and sunflower oil refining, see Oil, misc: Acid mixture from soybean, corn (maize) and sunflower oil refining	34	3		AOM
Acrolein	19	2	ARL	

Acrylamide solution (50% or less)	10	3	AAM	AAO
Acrylic acid	4	2	ACR	
Acrylic acid/ethenesulfonic acid copolymer with phosphonate groups, sodium salt solution	30	3	APG	
Acrylonitrile	15	2	ACN	
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol	20		ALE	
Adiponitrile	37		ADN	
Alachlor technical (90% or more)	33	3	ALH	ALI
Alcohol (C12-C13, branched and linear) poly (4-8) propoxy sulfates, sodium salt 25-30% solution	41	3	ABL	
Alcohol (C9-C11) poly (2.5-9) ethoxylates	20	3	AET	ALY/APV/APW
Alcohol (C6-C17) (secondary) poly (3-6) ethoxylates	20	3	AEA	AEB
Alcohol (C6-C17) (secondary) poly (7-12) ethoxylates	20	3	AEB	AEA
Alcohol (C12-C16) poly (1-6) ethoxylates	20	3	AED	AET/ALY/APW

Alcohol (C12-C16) poly (7-19) ethoxylates	20	3	APV	AET/ALY/APV
Alcohol (C12-C16) poly (20+) ethoxylates	20	3	APW	AET/ALY
Alcohol (C12-C15) poly (…) ethoxylate, see Alcohol (C12-C16) poly (…) ethoxylates	20			
Alcohol polyethoxylates	20			AEA/AEB/AED/AET/APV/APW
Alcohol polyethoxylates, secondary	20			AEA/AEB
Alcoholic beverages, n.o.s.	20	3	ABV	
Alcohols (C12+), primary, linear	20	3	ASY	ALR/AYK/AYL
Alcohols (C8–C11), primary, linear and essentially linear	20		ALR	AYK/AYL
Alcohols (C12-C13), primary, linear and essentially linear	20	3	AYK	ALR/ASY/AYL
Alcohols (C14-C18), primary, linear and essentially linear	20	3	AYL	ALR/ASY AYK
Alcohols (C13+)	20		ALY	ASY/AYK

Including:				
Cetyl Alcohol (hexadecanol)	20			
Oleyl Alcohol (octadecenol)	20			
Pentadecanol	20			
Tallow alcohol	20			
Tetradecanol	20			
Tridecanol	20			
Alkanes (C10-C26), linear and branched (flash point > 60 °C)	31	3	ABD	
Alkanes (C6-C9)	31		ALK	
Including:				
Heptanes	31			
Hexanes	31			
Nonanes	31			
Octanes	31			
n-Alkanes (C10+) (all isomers)	31		ALV	ALJ
Including:				

Decanes	31			
Dodecanes	31			
Heptadecanes	31			
Tridecanes	31			
Undecanes	31			
iso-& cyclo-Alkanes (C10-C11)	31		AKI	
iso-& cyclo-Alkanes (C12+)	31		AKJ	
Alkane (C14-C17) sulfonic acid, sodium salt solutions, see Sodium alkyl (C14-C17) sulfonates (60-65% solution)	34		AKA	SAA (AKE/SSU)
Alkaryl polyether (C9-C20)	41		AKP	
Alkenoic acid, polyhydroxy ester borated	0	1, 3	AAY	
Alkenyl (C11+) amide	10		AKM	
Alkenyl (C16-C20) succinic anhydride	11		AAH	
Alkyl acrylate-Vinyl pyridine copolymer in Toluene	32		AAP	
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer)	34		APD	

Alkylated (C4-C9) hindered phenols	21	3	AYO	
Alkyl (C3-C4) benzenes	32		AKC	
Including:				
Butylbenzenes	32			
Cumene	32			
Propylbenzenes	32			
Alkyl (C5-C8) benzenes	32		AKD	
Including:				
Amylbenzenes	32			
Heptylbenzenes	32			
Hexylbenzenes	32			
Octylbenzenes	32			
Alkyl (C9+) benzenes	32		AKB	
Including:				
Decylbenzenes	32			
Dodecylbenzenes	32			
Nonylbenzenes	32			

Tetradecylbenzenes	32			
Tetrapropylbenzenes	32			
Tridecylbenzenes	32			
Undecylbenzenes	32			
Alkyl (C8+) amine, Alkenyl (C12+) acid ester mixture	34		AAA	
Alkyl amine (C17+)	7		AKY	
Alkyl benzene distillation bottoms	0	1, 3	ABB	
Alkylbenzene mixtures (containing at least 50% of Toluene)	32	3	AZT	
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12-C17)	32		AIH	
Alkyl (C11-C17) benzene sulfonic acid	0	1, 2, 3	ABN	ABS/ABQ
Alkylbenzene sulfonic acid (less than 4%)	0	1	ABQ	ABS/ABN
Alkylbenzene sulfonic acid, sodium salt solution	33		ABT	
Alkyl (C12+) dimethylamine	7	3	ADM	
Alkyl dithiocarbamate (C19-C35)	34	3	ADB	

Alkyl dithiothiadiazole (C6-C24)	33		ADT	
Alkyl ester copolymer (C4-C20)	34		AES	AEQ
Alkyl ester copolymer in mineral oil	34		AEQ	AES
Alkyl (C7-C9) nitrates	34	2	AKN	ONE
Alkyl (C7-C11) phenol poly (4-12) ethoxylates	40		APN	NPE
Alkyl (C4-C9) phenols	21		AYI	BLT/BTP/NNP/OPH
Alkyl phenol sulfide (C8-C40), see Alkyl (C8-C40) phenol sulfide	34			AKS
Alkyl (C8-C40) phenol sulfide	34		AKS	
Alkyl (C9-C15) phenyl propoxylate	40		AXL	
Alkyl (C8-C9) phenylamine in aromatic solvents	9		ALP	
Alkyl phthalates, see individual phthalates	34		AYS	
Alkyl polyglucoside solution, see individual polyglucoside solution	43		AGD	AGL/AGM AGN/AGO AGP

Alkyl (C8-C10) polyglucoside solution (65% or less)	43	3	AGL	AGD/AGM/ AGN/AGO/ AGP
Alkyl (C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	43	3	AGN	AGD/AGL AGM/AGO AGP
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	43	3	AGO	AGD/AGL/ AGN/AGP
Alkyl (C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution (55% or less)	43	3	AGP	AGD/AGL/ AGM/AGN/ AGO
Alkyl (C12-C14) polyglucoside solution (55% or less)	43	3	AGM	AGD/AGL/ AGN/AGO/ AGP
Alkyl (C12-C16) propoxyamine ethoxylates	8	3	AXE	LPE
Alkyl (C10-C20), saturated and unsaturated) phosphite	34		AKL	
Alkyl succinic anhydride	11		AUA	
Alkyl sulfonic acid ester of phenol	34		AKH	
Alkyl toluene	32		AYL	AUS

Alkyl (C18+) toluenes	32	3	AUS	AYL
Alkyl (C18-C28) toluenesulfonic acid	0	1, 3	AUU	
Alkyl (C18-C28) toluenesulfonic acid, Calcium salts, borated	34	3	AUB	
Alkyl (C18-C28) toluenesulfonic acid, Calcium salts, low overbase	33	3	AUL	
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, high overbase	33	3	AUC	
Allyl alcohol	15	2	ALA	
Allyl chloride	15		ALC	
Aluminum chloride/Hydrochloric acid solution, see "Aluminum chloride/Hydrogen chloride solution"	0	1	AHS	AHG
Aluminum chloride/Hydrogen chloride solution	0	1, 3	AHG	AHS
Aluminum hydroxide/sodium hydroxide/sodium carbonate solution (40% or less)	5	3	AHN	
Aluminum sulfate solution	43	2	ASX	ALM
Amine C-6, morpholine process residue	9		AOI	

Aminoethyldiethanolamine/ Aminoethylethanolamine solution	8		ADY	
2-(2-Aminoethoxy)ethanol	8		AEX	
Aminoethylethanolamine	8		AEE	
N-Aminoethylpiperazine	7		AEP	
2-Amino-2-hydroxymethyl-1,3-propanediol solution	43		AHL	
2-Amino-2-methyl-1-propanol	8		APZ	APQ/APR
Ammonia, anhydrous	6		AMA	
Ammonia, aqueous (28% or less Ammonia), see Ammonium hydroxide	6			AMH
Ammonium bisulfite solution (70% or less)	43	2	ABX	ASU
Ammonium chloride solution (less than 25%)	43	3	AIS	AMC
Ammonium hydrogen phosphate solution	0	1	AMI	
Ammonium hydroxide (28% or less Ammonia)	6		AMH	
Ammonium lignosulfonate solution, see also Lignin liquor	43		ALG	LNL

Ammonium nitrate solution (45% or less)	0	1	AND	AMN/ANR/ ANW
Ammonium nitrate solution (93% or less)	0	1	ANW	AMN/AND/ ANR
Ammonium nitrate/Urea solution (containing Ammonia), see Urea/ Ammonium nitrate solution (containing 1% or more Ammonia)	6			UAS (ANU/UAT/ UAU/UAV)
Ammonium nitrate/Urea solution (not containing Ammonia), see Urea/ Ammonium nitrate solution (containing less than 1% Ammonia)	43			UAU (ANU/UAS/ UAT/UAV)
Ammonium phosphate/Urea solution, see Urea/Ammonium phosphate solution	43			UAP (APP/URE)
Ammonium polyphosphate solution	43		AMO	
Ammonium sulfate solution	43		ASW	AME/AMS
Ammonium sulfate solution (20% or less)	43		AME	AMS/ASW
Ammonium sulfide solution (45% or less)	5	3	ASS	ASF
Ammonium thiocyanate/Ammonium thiosulfate solution	0	1	ACV	ACS

Ammonium thiosulfate solution (60% or less)	43	3	ATV	ATF
Amyl acetate (all isomers)	34	3	AEC	IAT/AML/AAS/AYA
Amyl acid phosphate	34		AIA	
Amyl alcohol, primary	20	3	APM	AAI/AAL/AAN/IAA
n-Amyl alcohol	20	3	AAN	AAI/AAL/APM/ASE/IAA
sec-Amyl alcohol	20	3	ASE	AAI/AAL/AAN/APM/IAA
tert-Amyl alcohol	20	3	AAL	AAI/APM/ASE/IAA
tert-Amyl methyl ether	41		AYE	
Amyl methyl ketone, see Methyl amyl ketone	18		AMJ	MAK (AMK)
Amylene, see Pentene (all isomers)	30		AMW	PTX (AMX/AMZ/PTE)
tert-Amylenes, see Pentene	30		AMZ	PTX (AMW)

Aniline	9		ANL	
Animal and Fish oils, n.o.s.	34		AFN	
Including:				
Cod liver oil	34			
Lanolin	34			
Neatsfoot oil	34			
Pilchard oil	34			
Sperm oil	34			
Animal and Fish acid oils and distillates, n.o.s.	34		AFA	
Including:				
Animal acid oil	34			
Fish acid oil	34			
Lard acid oil	34			
Mixed acid oil	34			
Mixed general acid oil	34			
Mixed hard acid oil	34			

Mixed soft acid oil	34			
Anthracene oil (Coal tar fraction), see Coal tar	33		AHO	COR
Apple juice	43		APJ	
Argon, liquefied	0	1	ARG	
Aryl polyolefin (C11-C50)	30		AYF	
Asphalt	33		ASP	ACU
Asphalt blending stocks, roofers flux	33		ARF	
Asphalt blending stocks, straight run residue	33		ASR	
Asphalt emulsion	33		ASQ	
Asphalt, kerosene, and other components	33		AKO	
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95-120°C)	33	3	AVA	GAK/GAV
Barium long-chain alkaryl (C11-C50) sulfonate	34		BCA	
Barium long-chain alkyl (C8-C14) phenate sulfide	34		BCH	
Behenyl alcohol	20		BHY	

Benzene	32	2	BNZ	BHA/BHB/PYG
Benzene and mixtures having 10% Benzene or more	32		BHB	BHA/BNZ/PYG
Benzene hydrocarbon mixtures (containing Acetylenes) (having 10% Benzene or more)	32		BHA	BHB/BNZ/PYG
Benzene/Toluene/Xylene mixtures (having 10% Benzene or more)	32		BTX	BHB/BNZ/PYG/TOL/XLX/XLM/XLO/XLP
Benzenesulfonyl chloride	0	1, 2	BSC	
Benzenetricarboxylic acid, trioctyl ester	34		BCE	
Benzyl acetate	34		BZE	
Benzyl alcohol	21		BAL	
Benzyl chloride	36		BCL	
Bio-fuel blends of Diesel/gas oil and Alkanes (C10–C26), linear and branched with a flash point >60°C (>25% but < 99% by volume)	33	3	BIF	BIG/BIH/BII/BIJ/BIK

Bio-fuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flash point ≤ 60°C (>25% but < 99% by volume)	33	3	BIG	BIF/BIH/BII /BIJ/BIK
Bio-fuel blends of Diesel/gas oil and FAME (>25% but <99% by volume)	34	3	BIH	BIF/BIG/BII /BIJ/BIK
Bio-fuel blends of Diesel/gas oil and vegetable oil (>25% but <99% by volume)	34	3	BII	BIF/BIG/BI H/BIJ/BIK
Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)	20	2, 3	BIJ	BIF/BIG/BI H/BII/BIK
Bis (2-ethylhexyl) terephthalate	34		DHH	
Boronated calcium sulfonate	34		BCU	
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters	20	3	BFY	
Brominated Epoxy Resin in Acetone	16		BER	
Bromochloromethane	36		BCM	
Butadiene (all isomers)	30		BDI	
Butadiene/Butylene mixtures (containing	30		BBM	BBX/BDI/B

Acetylenes)				TN/IBL
Butane (all isomers)	31		BMX	IBT/BUT
Butane/Propane mixture	31		BUP	LPG
1,4-Butanediol, see Butylene glycol	20		BDO	BUG
2-Butanone, see Methyl ethyl ketone	18	2		MEK
Butene oligomer	30		BOL	
Butene, see Butylenes (all isomers)	30			BUT/IBL
2-Butoxyethanol (58%)/Hyperbranched polyesteramide (42%) (mixture)	20			
Butyl acetate (all isomers)	34	3	BAX	BCN/BTA/BYA/IBA
Butyl acrylate (all isomers)	14	3	BAR	BAI/BTC
Butyl alcohol (all isomers)	20	2, 3	BAY	BAN/BAS/BAT/IAL
Butyl alcohol (iso-, n-, sec-, tert-), see Butyl alcohol (all isomers)	20	2		BAN/BAS/BAT/BAY/IAL
Butylamine (all isomers)	7	3	BTY	BAM/BTL/BUA/IAM

Butylbenzene (all isomers), see Alkyl(C3-C4)benzenes	32	3	BBE	AKC
Butyl benzyl phthalate	34		BPH	
Butyl butyrate (all isomers)	34	3	BBA	BIB/BUB
n-Butyl ether	41	3	BTE	
n-Butyl formate	34		BFN	BFI/BFO
Butyl heptyl ketone	18		BHK	
Butyl methacrylate	14		BMH	BMI/BMN
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture, see Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	14	3		DER (BMH/BMI/ BMN/CEM)
Butyl methyl ketone, see Methyl butyl ketone	18	2		MBJ (MBK/MIK)
Butyl phenol, Formaldehyde resin in Xylene	32			
n-Butyl propionate	34		BPN	
Butyl stearate	34		BST	
Butyl toluene	32		BUE	

Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	14	3	DER	BMH/BMI/ BMN/CEM
Butylene glycol	20	2	BUG	BDO
1,2-Butylene oxide	16		BTO	
Butylenes (all isomers)	30		BTN	IBL
Butyraldehyde (all isomers)	19	3	BAE	BAD/BTR
Butyric acid	4		BRA	IBR
gamma-Butyrolactone	0	1, 2	BLA	
C9 Resinfeed (DSM)	32	2	CNR	
Calcium alkaryl sulfonate (C11-C50), see Calcium long-chain alkaryl sulfonate (C11-C50)	34	3	CAE	CAY
Calcium alkyl (C9) phenol sulfide, polyolefin phosphorosulfide mixture	34		CPX	
Calcium alkyl (C10–C28) salicylate	34	3	CAJ	
Calcium alkyl salicylate, see Calcium long-chain alkyl salicylate (C13+), Calcium long-chain alkyl (C18-C28) salicylate, or Calcium alkyl (C10-C28) salicylate	34			CAJ/CAK/CAZ

Calcium bromide solution, see Drilling brines			CBI	DRB
Calcium bromide/Zinc bromide solution, see Drilling brine (containing Zinc salts)	43			DZB
Calcium carbonate slurry	34		CSR	
Calcium chloride solution	43		CCS	CLC
Calcium hydroxide slurry	5		COH	CAH
Calcium hypochlorite solution (15% or less)	5	3	CHU	CHY/CHZ
Calcium hypochlorite solution (more than 15%)	5	3	CHZ	CHU/CHY
Calcium lignosulfonate solutions, see also Lignin liquor	43		CLL	LNL
Calcium long-chain alkaryl sulfonate (C11-C50)	34		CAY	
Calcium long-chain alkyl (C8-C40) phenate, see Calcium long-chain alkyl (C5-C10) phenate or Calcium long-chain alkyl (C11-C40) phenate	34		CAQ	CAU/CAV (CAN/CAW)
Calcium long-chain alkyl (C5-C10) phenate	34	3	CAU	CAN/CAQ/ CAV/CAW

Calcium long-chain alkyl (C5-C20) phenate	34		CAV	CAN/CAQ/ CAU/CAW
Calcium long-chain alkyl (C11-C40) phenate	34	3	CAW	CAN/CAQ/ CAU/CAV
Calcium long-chain alkyl phenate sulfide (C8-C40)	34		CPI	
Calcium long-chain alkyl phenolic amine (C8-C40)	9		CPQ	
Calcium long-chain alkyl (C18-C28) salicylate	34	3	CAJ	
Calcium long-chain alkyl salicylate (C13+)	34		CAK	CAJ/CAZ
Calcium nitrate solutions (50% or less)	34	3	CNU	CNT
Calcium nitrate/Magnesium nitrate/ Potassium chloride solution	34		CLM	
Calcium salts of fatty acids	34		CFF	
Calcium stearate	34		CSE	
Calcium sulfonate/Calcium carbonate/Hydrocarbon solvent mixture	33		CSH	
Camelina oil, see Oil, misc.: Camelina	34	3	CEL	

Camphor oil (light)	18		CPO	
Canola oil, see Oil, edible: Rapeseed, (low erucic acid containing less than 4% free fatty acids)	34			ORO (ORP)
Caprolactam solution, see epsilon-Caprolactam (molten or aqueous solutions)	22		CLS	
epsilon-Caprolactam (molten or aqueous solutions)	22	3	CLU	CLS
Caramel solutions	43		CML	
Carbolic oil	21		CBO	
Carbon dioxide (high purity)	0	1	CDH	CDO/CDQ
Carbon dioxide (reclaimed quality)	0	1	CDQ	CDH/CDO
Carbon dioxide, liquefied	0	1	CDO	CDH/CDQ
Carbon disulfide	38		CBB	
Carbon tetrachloride	36	2	CBT	CBU
Cashew nut shell oil (untreated), see Oil, misc.: Cashew nut shell (untreated)	34		OCN	
Castor oil, see Oil, edible: Castor	34			OCA (VEO)

Catoxid feedstock	36	2	CXF	
Caustic potash solution	5	2	CPS	
Caustic soda solution	5	2	CSS	
Cesium formate solution	43	3	CSM	
Cetyl alcohol (hexadecanol), see Alcohols (C13+)	20			ALY (ASY/AYL)
Cetyl/Stearyl alcohol, see Alcohols (C13+)	20			ALY (ASY/AYL)
Cetyl/Eicosyl methacrylate mixture	14		CEM	
Chlorinated paraffins (C10-C13)	36		CLH	CLG/CLJ/CLQ
Chlorinated paraffins (C14-C17) (with 50% Chlorine or more, and less than 1% C13 or shorter chains)	36	3	CLJ	CLG/CLH/CLQ
Chlorinated paraffins (C14-C17) (with 52% Chlorine)	36		CLQ	CLG/CLH/CLJ
Chlorinated paraffins (C18+) with any level of chlorine	36		CLG	CLH/CLJ
Chlorine	0	1	CLX	
Chloroacetic acid (80% or less)	4	3	CHM	CHL/MCA

Chlorobenzene	36	2	CRB	
Chlorodifluoromethane, see monochlorodifluoromethane	36		MCF	
2-Chloro-4-ethylamino-6-isopropylamino-5-triazine solution	0	1	CET	
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one	18	2	CDP	
2-or 3-Chloropropionic acid	4		CPM	CLA/CLP
Chloroform	36		CRF	
Chlorohydrins (crude)	17	3	CHD	
4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution	9		CDM	
o-Chloronitrobenzene	42		CNO	CNP
Chlorosulfonic acid	0	1	CSA	
m-Chlorotoluene	36	3	CTM	CHI/CRN/CTO
o-Chlorotoluene	36	3	CTO	CHI/CRN/CTM
p-Chlorotoluene	36	3	CRN	CHI/CTM/CTO

Chlorotoluenes (mixed isomers)	36	3	CHI	CRN/CTM/ CTO
Choline chloride solutions	20		CCO	
Citric acid (70% or less)	4	3	CIS	CIT
Clay slurry	43		CLY	
Coal slurry	43		COG	COA
Coal tar	33		COR	OCT
Coal tar crude bases	33		CTB	
Coal tar distillate, see Naphtha: Coal tar solvent	33		CDL	NCT (CTU)
Coal tar naphtha solvent, see Naphtha: Coal tar solvent	33			NCT (CDL/CTU)
Coal tar pitch (molten)	33	3	CTP	
Coal tar, high temperature	33		CHH	
Cobalt naphthenate in solvent naphtha	34		CNS	
Cocoa butter, see Oil, edible: Cocoa butter	34			OCB (VEO)
Coconut oil, see Oil, edible: Coconut	34	2		OCC (VEO)
Coconut oil, fatty acid, see Oil, misc: Coconut	34	2		CFA

fatty acid				
Coconut oil, fatty acid methyl ester, see Oil, misc: Coconut fatty acid methyl ester	34	3		OCM
Copper salt of long-chain (C17+) alkanoic acid	34		CUS	CFT
Copper salt of long-chain (C3-C16) fatty acid	34		CFT	CUS
Corn oil, see Oil, edible: Corn	34			OCO (VEO)
Corn syrup	43		CSY	
Cotton seed oil, see Oil, edible: Cotton seed	34			OCS (VEO)
Cotton seed oil, fatty acid, see Oil, misc.: Cotton seed oil, fatty acid	34		CFY	
Creosote	21	2	CCW	CCT/CWD
Creosote (coal tar)	21	2, 3	CCT	CCW
Creosote (wood tar)	21	2, 3	CWD	CCT/CCW
Cresols (all isomers)	21	3	CRS	CFO/CFP/CRL/CRO/CSC/CSO

Cresols with 5% or more Phenol, see Phenol	21		CFP	PHN (CFO/CRL/ CRO/CRS/C SO)
Cresols with less than 5% Phenol, see Cresols (all isomers)	21		CFO	CRS (CFP/CRL/C RO/CSO)
Cresylate spent caustic, see Cresylic acid, sodium salt solution	5	2	CSC	CYD
Cresylic acid	21		CRY	
Cresylic acid, dephenolized	21		CAD	CRY/CYN
Cresylic acid tar	21		CRX	
Cresylic acid with 5% or more phenol	21		CYN	CAD/CRY
Cresylic acid, sodium salt solution	5	2	CYD	CSC
Crotonaldehyde	19	2	CTA	
Crude isononylaldehyde, see Isononyldehyde (crude)	19			INC
Crude isopropanol, see Isoproyl alcohol, crude	20			IPB (IPA/PAL)
Crude piperazine, see Piperazine, crude	7			PZC (PPZ/PIZ)

Cumene, see Propylbenzene (all isomers)	32		CUM	AKD (PBY/PBZ)
1,5,9-Cyclododecatriene	30		CYT	
Cycloheptane	31		CYE	
Cyclohexane	31		CHX	
Cyclohexanol	20		CHN	
Cyclohexanone	18	2	CCH	
Cyclohexanone/Cyclohexanol mixtures	18	2	CYX	
Cyclohexyl acetate	34		CYC	
Cyclohexylamine	7		CHA	
Cyclopentadiene/Styrene/Benzene mixture	30		CSB	
1,3-Cyclopentadiene dimer (molten)	30	3	CPD	DPT/DPV
Cyclopentane	31		CYP	
Cyclopentene	30		CPE	
p-Cymene	32		CMP	
Decahydronaphthalene	33		DHN	
Decaldehyde	19		DAY	IDA/DAL

Decane (all isomers), see n-Alkanes (C10+) (all isomers)	31		DCC	ALV (ALJ)
Decanoic acid	4		DCO	NEA
Decene	30		DCE	
Decyl acetate	34		DYA	
Decyl acrylate	14		DAT	IAI/DAR
Decyl alcohol (all isomers)	20	2, 3	DAX	ISA/DAN
Decyl/Dodecyl/Tetradecyl alcohol mixture	20	3	DYO	DAN/DAX/ DDN/ISA
Decylbenzene, see Alkyl (C9+) benzenes	32		DBZ	AKB
Decyloxytetrahydrothiophene dioxide	0	1	DHT	
Detergent alkylate	32		DKY	AKB/DBZ/ DDB/TDB/T RB/UDB
Dextrose solution, see Glucose solution	43		DTS	GLU
Diacetone alcohol	20	2	DAA	

Dialkyl (C9-C10) phthalates, see Dialkyl (C7-C13) phthalates	34		DLK	DLH (DAP/DHL/DHP/DID/DIE/DIF/DIN/DIO/DIT/DOP/DPA/DTP/DUP)
Dialkyl thiophosphates sodium salts solution	34	3	DYH	
Dialkyl (C10-C14) benzenes, see Alkyl (C9+) benzenes	32		DAB	AKB
Dialkyl (C8-C9) diphenylamines	9		DAQ	
Dialkyl (C7-C13) phthalates	34		DAH	
Including:				
Di-(2-ethylhexyl) phthalate	34			
Diheptyl phthalate	34			
Dihexyl phthalate	34			
Diisooctyl phthalate	34			
Dioctyl phthalate	34			
Diisodecyl phthalate	34			

Diisononyl phthalate	34	2		
Dinonyl phthalate	34			
Ditridecyl phthalate	34			
Diundecyl phthalate	34			
Dibromomethane	36		DBH	
Dibutyl carbinol, *see* Nonyl alcohol (all isomers)	20			NNS (DBC/NNI/ NNN)
Dibutyl hydrogen phosphonate	34		DHD	
Dibutyl phthalate	34		DPA	DIT
Dibutyl terephthalate	34	3	DYE	
Dibutylamine	7		DBA	
Dibutylphenols	21		DBT	DBF/DBV/D BW
Di-tert-butylphenol	21		DBF	DBT/DBV/ DBW
2,4-Di-tert-butylphenol	21		DBV	DBF/DBT/D BW
2,6-Di-tert-butylphenol	21	3	DBW	DBF/DBT/D

				BV
Dichlorobenzene (all isomers)	36	3	DBX	DBM/DBO/ DBP
3,4-Dichloro-1-butene	36		DCD	DCB
Dichlorodifluoromethane	36		DCF	
1,1-Dichloroethane	36		DCH	
Dichloroethyl ether	41	3	DYR	DEE
1,6-Dichlorohexane	36		DHX	
2,2′-Dichloroisopropyl ether	41		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 (70% or less)	0	1, 2, 3	DDA	DAD/DSX
2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution	43	2	DTI	
Dichloropropane	36		DPX	

1,1-Dichloropropane	36		DPB	DPC/DPL/DPP/DPX
1,2-Dichloropropane	36	2, 3	DPP	DPB/DPC/DPL/DPX
1,3-Dichloropropane	36		DPC	DPB/DPL/DPP/DPX
Dichloropropene (all isomers)	15		DCW	DPF/DPU
1,3-Dichloropropene	15			DCW/DPF
Dichloropropene/Dichloropropane mixtures	15		DMX	DCW/DPB/DPC/DPL/DPP/DPU/DPX
2,2-Dichloropropionic acid	4		DCN	
Dicyclopentadiene, Resin Grade, 81-89%	30	3	DPV	CPD/DPT
Dicyclopentadiene, see 1,3-Cyclopentadiene dimer (molten)	30		DPT	CPD (DPV)
Diethanolamine	8	2	DEA	
Diethanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution	43		DZZ	DDE

Diethylamine	7		DEN	
Diethylaminoethanol	8		DAE	
2,6-Diethylaniline	9		DMN	DIY
Diethylbenzene	32		DEB	
Diethyl ether	41		EET	
Diethyl hexanol, see Decyl alcohol (all isomers)	20			DAX
Di-(2-ethylhexyl) adipate	34		DEH	
Di-(2-ethylhexyl) phosphoric acid	1		DEP	
Di-(2-ethylhexyl) phthalate, see Dialkyl (C7-C13) phthalate	34		DIE	DAH
Di-(2-ethylhexyl) terephthalate	34		DHH	
Diethylene glycol	40	2	DEG	
Diethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DME	PAG
Diethylene glycol butyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	34		DEM	PAF
Diethylene glycol dibenzoate	34		DGZ	

Diethylene glycol dibutyl ether	40		DIG	
Diethylene glycol diethyl ether	40		DGS	
Diethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	40		DGE	PAG
Diethylene glycol ethyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetates	34		DGA	PAF
Diethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DGM	PAG
Diethylene glycol methyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	34		DGR	PAF
Diethylene glycol n-hexyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DHE	PAG
Diethylene glycol phenyl ether	40		DGP	
Diethylene glycol phthalate	34		DGL	
Diethylene glycol propyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DGO	PAG
Diethylenetriamine	7	2	DET	

Diethylenetriamine pentaacetic acid, pentasodium salt solution	43		DYS	
Diethylethanolamine, see Diethylaminoethanol	8			DAE
Diethyl phthalate	34		DPH	
Diethyl sulfate	34		DSU	
Diglycidyl ether of Bisphenol A	16		BDE	
Diglycidyl ether of Bisphenol F	16		DGF	
Diheptyl phthalate, see Dialkyl (C7-C13) phthalate	34		DHP	DAH
Di-n-hexyl adipate	34		DHA	
Dihexyl phthalate, see Dialkyl (C7-C13) phthalate	34		DHL	
Diisobutyl carbinol, see Nonyl alcohol (all isomers)	20		DBC	NNS
Diisobutyl ketone	18		DIK	
Diisobutyl phthalate	34		DIT	DPA
Diisobutylamine	7		DBU	
Diisobutylene	30		DBL	

Diisodecyl phthalate, see Dialkyl (C7-C13) phthalates	34		DID	DAH
Diisononyl adipate	34		DNY	
Diisononyl phthalate, see Dialkyl (C7-C13) phthalates	34	2	DIN	DAH
Diisooctyl phthalate, see Dialkyl (C7-C13) phthalate	34		DIO	DAH/(DIE/ DOP)
Diisopropanolamine	8		DIP	
Diisopropylnaphthalene	32		DII	
Diisopropylamine	7		DIA	DNA
Diisopropylbenzene (all isomers)	32		DIX	
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	5		DDH	
N,N-Dimethylacetamide	10		DAC	DLS
N,N-Dimethylacetamide solution (40% or less)	10	3	DLS	DAL
Dimethyl adipate	34		DLA	
Dimethylamine	7		DMA	DMC/DMG/ DMY

Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution (70% or less)	0	1	DAD	DDA (DSX)
Dimethylamine salt of 4-Chloro-2-methylphenoxyacetic acid solution, see 4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution	9			CDM
Dimethylamine solution (45% or less)	7	3	DMG	DMA/DMC/DMY
Dimethylamine solution (greater than 45% but not greater than 55%)	7	3	DMY	DMA/DMC/DMG
Dimethylamine solution (greater than 55% but not greater than 65%)	7	3	DMC	DMA/DMG/DMY
2,6-Dimethylaniline	9		DMM	DDL
Dimethylbenzene, see Xylenes	32	2		XLX/XLM/XLO/XLP
Dimethylcyclicsiloxane hydrolyzate	34		DXZ	
N,N-Dimethylcyclohexylamine	7		DXN	
Dimethyl disulfide	0	1, 2, 3	DSK	

Dimethyldodecylamine, see N,N-Dimethyldodecylamine	7			DDY
N,N-Dimethyldodecylamine	7		DDY	
Dimethylethanolamine	8		DMB	
Dimethyl ether	41		DIM	
Dimethylformamide	10	2	DMF	
Dimethyl furan	41		DFU	
Dimethyl glutarate	34		DGT	
Dimethyl hydrogen phosphite	34	2	DPI	
Dimethyl naphthalene sulfonic acid, sodium salt solution	34	2	DNS	
Dimethyl octanoic acid	4		DMO	
Dimethyl phthalate	34		DTL	
Dimethylpolysiloxane, see Polydimethylsiloxane	34		DMP	
2,2-Dimethylpropane-1,3-diol (molten or solution)	20	3	DDI	
Dimethyl succinate	34		DSE	

Dinitrotoluene (molten)	42	3	DNM	DNL/DNU/ DTT
Dinonyl phthalate, see Dialkyl (C7-C13) phthalates	34		DIF	DAH
Dioctyl phthalate, see Dialkyl (C7-C13) phthalates	34		DOP	DAH (DIE/DIO)
1,4-Dioxane	41		DOX	
Dipentene	30		DPN	
Diphenyl	32		DIL	
Diphenylamine (molten)	9		DAG	DAM
Diphenylamine, reaction product with 2,2,4-trimethylpentene	9		DAK	
Diphenylamines, alkylated	9		DAJ	
Diphenyl/Diphenyl ether mixture	33		DDO	
Diphenyl ether	41		DPE	
Diphenyl ether/Biphenyl ether mixture, see Diphenyl/Diphenyl ether mixture	41			DDO
Diphenyl ether/Diphenyl phenyl ether mixture	41		DOB	

Diphenylmethane diisocyanate	12	2	DPM	
Diphenyl oxide, see Diphenyl ether	41			DPE
Diphenylol propane-Epichlorohydrin resins	0	1	DPR	
Di-n-propylamine	7		DNA	DIA
Dipropylene glycol	40		DPG	
Dipropylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DBG	PAG
Dipropylene glycol dibenzoate	34		DGY	
Dipropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		DPY	PAG
Distillates, flashed feed stocks	33		DFF	
Distillates, straight run	33		DSR	
Dithiocarbamate ester (C7-C35)	34		DHO	
Ditridecyl adipate	34		DTY	
Ditridecyl phthalate, see Dialkyl (C7-C13) phthalates	34		DTP	DAH
Diundecyl phthalate, see Dialkyl (C7-C13)	34		DUP	DAH

phthalates				
Dodecane (all isomers), see Alkanes (C10+) (all isomers)	31		DOF	ALV (ALJ/DOC)
tert-Dodecanethiol	0	1, 2	DDL	LRM
Dodecene (all isomers)	30	3	DOZ	DDC/DOD
Dodecanol (all isomers), see Dodecyl Alcohol (all isomers)	20	2	DDN	LAL
2-Dodecenylsuccinic acid, dipotassium salt solution	34		DSP	
Dodecyl alcohol (all isomers)	20	2	DDN	ASK/ASY/LAL
Dodecylamine/Tetradecylamine mixture	7	2	DTA	
Dodecylbenzene, see Alkyl (C9+) benzenes	32		DDB	AKB
Dodecyldimethylamine/ Tetradecyldimethylamine mixture	7		DOT	
Dodecyl diphenyl ether disulfonate solution	43		DTA	
Dodecyl hydroxypropyl sulfide	0	1	DOH	
Dodecyl methacrylate	14		DDM	

Dodecyl/Octadecyl methacrylate mixture	14		DOM	DDM
Dodecyl/Pentadecyl methacrylate mixture	14		DDP	
Dodecyl phenol	21		DOL	
Dodecyl xylene	32		DXY	
Dodecylbenzenesulfonic acid	0	1, 2	DSA	
Drilling brines (containing Calcium, Potassium or Sodium salts)	43		DRL	DRB/DRS
Drilling brines (containing Zinc salts)	43		DZB	DRB
Drilling brines, including: Calcium bromide solution, Calcium chloride solution and Sodium chloride solution	43	3		DRS/DRL
Drilling mud (low toxicity) (if flammable or combustible)	33		DRO	DRM/DRN/ DRP
Drilling mud (low toxicity) (if non-flammable or non-combustible)	43		DRP	DRM/DRN/ DRO
Epichlorohydrin	17		EPC	
Epoxy resin	16		EPN	
Ethane	31		ETH	

Ethanolamine	8		MEA	
2-Ethoxyethanol, see Ethylene glycol monoalkyl ethers	40		EEO	EGC (EGE)
ETBE, see Ethyl tert-butyl ether	41			EBE
2-Ethoxyethyl acetate	34	2	EEA	EGA
Ethoxylated alkyloxy alkyl amine	8		ELM	
Ethoxylated alcohols , C11-C15, see alcohol polyethoxylates	20			AEA/AEB/AED/AET/APV/APW/APX
Ethoxylated long-chain (C16+) alkyloxyalkylamine	8		ELA	
Ethoxylated tallow alkyl amine	7		TAY	TAG/TAR
Ethoxylated tallow alkyl amine, glycol mixture	7		TAG	TAR/TAY
Ethoxylated tallow amine (>95%)	7	3	TAR	TAG/TAY
Ethoxy triglycol, see Poly(2-8)alkylene glycol monoalkyl (C1–C6) ether	40		ETG	PAG (ETR/TGE)
Ethoxy triglycol (crude)	40		ETR	
Ethyl acetate	34	2	ETA	

Ethyl acetoacetate	34		EAA	
Ethyl acrylate	14	2	EAC	
Ethyl alcohol	20	2	EAL	
Ethylamine	7	2	EAM	EAN/EAO
Ethylamine solution (72% or less)	7	3	EAN	EAM/EAO
Ethyl amyl ketone	18		EAK	ELK
Ethylbenzene	32		ETB	
Ethyl butanol	20		EBT	
N-Ethylbutylamine	7		EBA	
Ethyl tert-butyl ether	41	2	EBE	
Ethyl butyrate	34		EBR	
Ethyl chloride	36		ECL	
Ethyl cyclohexane	31		ECY	
N-ethylcyclohexylamine	7		ECC	
2-Ethyl-2-(2,4-dichlorophenoxy) acetate	34		EDY	
2-Ethyl-2-(2,4-dichlorophenoxy) propionate	34		EDP	

S-Ethyl dipropylthiocarbamate	34	3	ECB	
Ethylene	30		ETL	
Ethyleneamine EA 1302	7	2	EMX	
Ethylene carbonate	34		ECR	
Ethylene chlorohydrin	20		ECH	
Ethylene cyanohydrin	20	2	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	EAG
Ethylene glycol acetate	34		EGO	
Ethylene glycol butyl ether acetate	34		EMA	
Ethylene glycol diacetate	34		EGY	
Ethylene glycol dibutyl ether	40		EGB	
Ethylene glycol ethyl ether acetate	34	2	EGA	EEA

Ethylene glycol methyl ether acetate	34		EGT	
Ethylene glycol butyl ether, see Ethylene glycol monoalkyl ethers	40		EGM	EGC
Ethylene glycol tert-butyl ether, see Ethylene glycol monoalkyl ethers	40		EGG	EGC
Ethylene glycol isobutyl ether, see Ethylene glycol monoalkyl ethers	40			EGC (EGG/EGM)
Ethylene glycol methyl butyl ether, see Ethylene glycol monoalkyl ethers	40		EMB	EGC
Ethylene glycol ethyl ether, see Ethylene glycol monoalkyl ethers	40		EGE	EGC/EEO
Ethylene glycol hexyl ether, see Ethylene glycol monoalkyl ethers	40		EGH	EGC
Ethylene glycol methyl ether, see Ethylene glycol monoalkyl ethers	40		EME	EGC
Ethylene glycol n-propyl ether, see Ethylene glycol monoalkyl ethers	40		EGN	EGC (EGI/EGP)
Ethylene glycol propyl ether, see Ethylene glycol monoalkyl ethers	40		EGP	EGC/EGI/EGN
Ethylene glycol isopropyl ether, see Ethylene glycol monoalkyl ethers	40		EGI	EGC (EGG/EGM)

Ethylene glycol monoalkyl ethers	40	2	EGC	
Including:				
Ethylene glycol butyl ether	40			
Ethylene glycol ethyl ether	40			
Ethylene glycol isobutyl ether	40			
Ethylene glycol methyl butyl ether	40			
Ethylene glycol tert-butyl ether	40			
Ethylene glycol hexyl ether	40			
Ethylene glycol methyl ether	40			
Ethylene glycol propyl ether	40			
Ethylene glycol isopropyl ether	40			
Ethylene glycol phenyl ether	40		EPE	
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	40		EDX	
Ethylene oxide	0	1	EOX	

Ethylene oxide/Propylene oxide mixture	16		EPF	EPM
Ethylene oxide/Propylene oxide mixture with an Ethylene oxide content not more than 30% by mass	16	3	EPM	EPF
Ethylene-Propylene copolymer (in liquid mixtures)	31		EPY	
Ethylene-Vinyl acetate copolymer (emulsion)	43		ECV	
Ethyl ether, see Diethyl ether	41			EET
Ethyl-3-ethoxypropionate	34		EEP	
2-Ethylhexaldehyde, see Octyl aldehydes	19		EHA	OAL (OLX)
2-Ethylhexanoic acid, see Octanoic acid (all isomers)	4		EHO	OAY (OAA)
2-Ethylhexanol, see Octanol	20		EHX	OCA (OTA)
2-Ethylhexyl acrylate	14		EAI	
2-Ethylhexylamine	7		EHM	
Ethyl hexyl phthalate	34		EHE	
Ethyl hexyl tallate	34		EHT	
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol	34		EHD	

(C8-C10) ester				
Ethyl lactate	34		ELT	
Ethylidene norbornene	30	2	ENB	
Ethyl methacrylate	14		ETM	
N-ethylmethylallylamine	7		EML	
2-Ethyl-6-methyl-N-(1′-methyl-2-methoxyethyl)aniline	9		EEM	
o-Ethyl phenol	21		EPL	
Ethyl propionate	34		EPR	
2-Ethyl-3-propylacrolein	19	2	EPA	
Ethyl toluene	32		ETE	
Fatty acid methyl esters	34	3	FME	
Fatty acids, (C8-C10)	34	3	FDS	
Fatty acids, (C12+)	34	3	FDT	FAB/FAD/FAI/FDI
Fatty acids (saturated, C13+)	34		FAB	FAD
Fatty acids (saturated, C14+), see Fatty acids (saturated C13+)	34		FAD	FAB

Fatty acids, (C16+)	34	3	FDI	
Fatty acids, essentially linear (C6-C18) 2-ethylhexyl ester	34	2, 3	FAE	
Ferric chloride solution	1		FCS	FCL
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	43	2	FHX	STA
Ferric nitrate/Nitric acid solution	3	2	FNN	
Fish oil, see Oil, edible: Fish	34	2		OFS (AFN)
Fish solubles (water based fish meal extracts)	43		FSO	
Fluorosilicic acid (20-30%) in water solution	1	3	FSK	FSJ/FSL/HFS
Fluorosilicic acid (30% or less)	1		FSJ	FSK/FSL/HFS
Formaldehyde (50% or more)/Methanol mixtures	19	2	MTM	
Formaldehyde solutions (37% - 50%)	19	2	FMS	FMG/FMR
Formaldehyde solutions (45% or less)	19	2, 3	FMR	FMG/FMS
Formamide	10		FAM	

Formic acid	4	2	FMA	FMB
Formic acid (85% or less)	4	2	FMB	FMA
Formic acid (over 85%)	4	2, 3	FMD	
Formic acid mixture (containing up to 18% Propionic acid and up to 25% Sodium formate)	4	2, 3	FMC	FMA/FMB
Fructose solution	43		FTS	FRT
Fumaric adduct of Rosin, water dispersion	43		FAR	
Fuming sulfuric acid, see Oleum	0	2		
Furfural	19		FFA	
Furfuryl alcohol	20	2	FAL	
Gas oil, cracked, see Oil, misc: Gas, cracked	33			GOC
Gasoline blending stock, alkylates	33		GAK	
Gasoline blending stock, reformates	33		GRF	
Gasolines:				
Automotive (not over 4.23 grams lead per gal.)	33		GAT	

Aviation (containing not over 4.86 grams lead per gal.)	33		GAV	AVA
Casinghead (natural)	33		GCS	
Polymer	33		GPL	
Straight run	33		GSR	
Gasolines: Pyrolysis (containing Benzene), see Pyrolysis gasoline (containing Benzene)	32		GPY	PYG
Glucitol/Glycerol blend propoxylated (containing less than 10% amines)	40	3	GGA	
Glucose solution	43		GLS	DTS
Glutaraldehyde solutions (50% or less)	19		GTA	
Glycerine	20	2	GCR	
Glycerine (83%)/Dioxanedimethanol (17%) mixture	20		GDN	GDM
Glycerol, see Glycerine	20	2		GCR
Glycerol ethoxylated	40		GXA	
Glycerol monooleate	20		GMO	
Glycerol polyalkoxylate	40		GPA	

Glycerol propoxylated	40	3	GXP	
Glycerol, propoxylated and ethoxylated	40	3	GXE	
Glycerol/Sucrose blend propoxylated and ethoxylated	40	3	GSB	
Glyceryl triacetate	34		GCT	
Glycidyl ester of C10 trialkyl acetic acid	34		GLU	GLT
Glycidyl ester of tertiary carboxylic acid, see Glycidyl ester of C10 trialkyl acetic acid	34		GLT	GLU
Glycidyl ester of tridecyl acetic acid, see Glycidyl ester of C10 trialkyl acetic acid	34		GLT	GLU
Glycidyl ester of Versatic acid, see Glycidyl ester of C10 trialkyl acetic acid	34		GLT	GLU
Glycine, sodium salt solution	7		GSS	
Glycol diacetate, see Ethylene glycol diacetate	34			EGY
Glycol mixture, crude	20		GMC	
Glycol triacetate, see Glyceryl triacetate	34			GCT

Glycolic acid solution (70% or less)	4	3	GLC	
Glyoxal solution (40% or less)	19	3	GOS	
Glyoxylic acid solution (50% or less)	4	3	GAC	
Glyphosate solution (not containing surfactant)	7		GIO	RUP
Grape Seed Oil, see Oil, edible: Grape Seed	34			
Groundnut Oil, see Oil, edible: Groundnut	34			OGN (VEO)
Hazelnut oil, see Oil, edible: Hazelnut	34			OHN (VEO)
Heptadecane (all isomers), see Alkanes (C10+) (all isomers)	31			ALV (ALJ)
Heptane (all isomers), see Alkanes (C6-C9)	31		HMX	ALK (HPI/HPT)
n-Heptanoic acid	4		HEN	HEP
Heptanol (all isomers)	20		HTX	HTN
Heptene (all isomers)	30	2, 3	HPX	THE
Heptyl acetate	34		HPE	
Heptylbenzenes, see Alkyl (C5-C8) benzenes	32			AKD

Herbicide (C15-H22-NO2-Cl), see Metolachlor	34			MCO
Hexadecanol, see Alcohols (C13+)	20			ALY (ASY/AYL)
1-Hexadecylnaphthalene/1,4-bis(Hexadecyl)naphthalene mixture	32		HNH	HNI
1-n-Hexadecylnaphthalene (90%)/1,4-di-n-(Hexadecyl)naphthalene (10%)	32		HNI	HNH
Hexaethylene glycol, see Polyethylene glycol	20		HMG	PEG
Hexamethylene diisocyanate	12		HMS	HDI
Hexamethylene glycol	20		HMG	HXG
Hexamethylenediamine (molten)	7	3	HME	HMD/HMC
Hexamethylenediamine adipate (50% in water)	43		HAM	HAN
Hexamethylenediamine adipate solution	43		HAN	HAM
Hexamethylenediamine solution	7		HMC	HMD/HME
Hexamethyleneimine	7		HMI	
Hexamethylenetetramine solutions	7		HTS	HMT
Hexane (all isomers), see Alkanes (C6-C9)	31	2	HXS	ALK (IHA/HXA)

1,6-Hexanediol, distillation overheads	4	2,3	HDO	
Hexanoic acid	4		HXO	
Hexanol	20		HXM	HEW/HEZ/ HXN
Hexene (all isomers)	30	2, 3	HEX	HXE/HXT/ HXU/HXV/ MPN/MTN
Hexyl acetate	34		HAE	
Hexylbenzenes, see Alkyl (C5-C8) benzenes	32			AKD
Hexylene glycol, see hexamethylene glycol	20		HXG	HMG
Hog grease, see Lard	34			LRD
Hydrochloric acid	1		HCL	
Hydrofluorosilicic acid, (25 % or less), see Fluorosilicic acid (30% or less)	1			FSJ (FSK/FSL/HFS)
bis (Hydrogenated tallow alkyl) methyl amines	7		HTA	
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	0	1, 3	HPS	HPN/HPO

Hydrogen peroxide solutions (over 8% but not over 60% by mass)	0	1, 3	HPN	HPO/HPS
alpha-Hydro-omega-hydroxytetradeca (oxytetramethylene)	40		HTO	PYS/PYT
Hydrogenated starch hydrolysate	0	1, 3	HSH	
2-Hydroxyethyl acrylate	14	2	HAI	
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	43		HET	
N,N-bis(2-Hydroxyethyl) oleamide	10		HOO	
2-Hydroxy-4-(methylthio)butanoic acid	4		HBA	
Hydroxy terminated polybutadiene, see Polybutadiene, hydroxy terminated	31			PHT
Illipe oil, see Oil, edible: Illipe	34			ILO (VEO)
Isoamyl alcohol	20	3	IAA	AAI/AAL/AAN/APM/ASE
Isobutyl alcohol	20	2, 3	IAL	BAN/BAS/BAT/BAY
Isobutyl formate	34	3	BFI	BFN/BFO

Isobutyl methacrylate	14	3	BMI	BMH/BMN
Isononylaldehyde (crude)	19		INC	
Isophorone	18	2	IPH	
Isophorone diamine	7		IPI	
Isophorone diisocyanate	12		IPD	
Isoprene (all isomers)	30		IPR	
Isoprene (part refined)	30		IPS	IPR/ISC
Isoprene concentrate (Shell)	30		ISC	
Isopropanolamine	8	3	MPA	IPF/PAX/PLA
Isopropanolamine solution	8	3	PAI	MPA/PAY/PLA/PRG
iso-Propanolamine, *see* Isopropanolamine	8			MPA (PAX/PLA)
Isopropyl acetate	34	3	IAC	PAT
Isopropyl alcohol	20	2, 3	IPA	IPB/PAL
Isopropylamine	7	3	IPP	IPO/IPQ/PRA

Isopropylamine (70% or less) solution	7	2, 3	IPQ	IPO/IPP/PRA
iso-Propylamine solution, see Isopropylamine (70% or less) solution	7			IPQ (IPO/IPP/PRA)
Isopropylbenzenes, see Alkyl (C3-C4) benzenes	32			AKC (CUM/PBY/PBZ)
Isopropylcyclohexane	31	3	IPX	
iso-Propyl cyclohexane, see Isopropylcyclohexane	31			IPX
Isopropyl ether	41	3	IPE	PRL/PRN
Jatropha oil, see Oil, misc: Jatropha	4			JTO
Jet fuels:				IBR
JP-4	33		JPF	
JP-5	33		JPV	
JP-8	33		JPE	
Kaolin clay solution	43		KLC	KLS
Kaolin slurry	43		KLS	KLC

Kerosene	33		KRS	
Ketone residue	18		KTR	
Kraft black liquor	5		KBL	KPL
Kraft pulping liquors (free alkali content 3% or more) (Black, Green, or White)	5		KPL	KBL
Lactic acid	0	1, 2	LTA	
Lactonitrile solution (80% or less)	37	3	LNI	
Lard	34		LRD	OLD
Latex, ammonia (1% or less)- inhibited	30	3	LTX	
Latex, liquid synthetic	43		LLS	LCB/LCC/LSB
Latex: Carboxylated Styrene-Butadiene copolymer; Styrene-Butadiene rubber	43	3	LCC	LCB/LSB
Lauric acid	34		LRA	
Lauric acid methyl ester/Myristic acid methyl ester mixture	34		LMM	
Lauryl polyglucose (50% or less), see Alkyl (C12-C14) polyglucoside solution (55% or less)	43		LAP	AMG

Lauryl polyglucose, see Alkyl (C12-C14) polyglucoside solution (55% or less)	43			AGM/LAP
Lecithin	34		LEC	
Lignin liquor	43		LNL	ALG/CLL/LGA/LGM/LSL/SHC/SHP/SHQ/SLP
Ligninsulfonic acid, magnesium salt solution	43	3	LGM	LGA/LNL/LSL
Ligninsulfonic acid, sodium salt solution, see Lignin liquor or Sodium lignosulfonate solution	43		LGA	LNL or SLG
d-Limonene, see Dipentene	30			DPN
Linear alkyl (C12-C16) propoxyamine ethoxylate	8		LPE	
Linseed oil, see Oil, misc: Linseed	34			OLS
Liquefied Natural Gas, see Methane	31		LNG	MTH
Liquid chemical wastes	0	1, 3	LCW	
Liquid Streptomyces solubles	43			
Long-chain alkaryl polyether (C11-C20)	41		LCP	

Long-chain alkyl amine	7		LAA	
Long-chain alkylphenate/Phenol sulfide mixture	21		LPS	
Long-chain alkaryl sulfonic acid (C16-C60)	0	1	LCS	
Long-chain alkyl (C13+) salicylic acid	4		LAS	
Long-chain polyetheramine in alkyl(C2-C4)benzenes	7		LCE	
L-Lysine solution (60% or less)	43	3	LYS	
Magnesium chloride solution	0	1, 2	MGL	
Magnesium hydroxide slurry	5		MHS	
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	
Magnesium nitrate solution (66.7%)	43		MGP	MGN/MGO
Magnesium nonyl phenol sulfide, see Magnesium long-chain alkyl phenate sulfide (C8-C20)	34			MPS

Magnesium sulfonate, see Magnesium long-chain alkaryl sulfonate (C11-C50)	34		MSE	MAS
Maleic anhydride	11		MLA	
Maleic anhydride/sodium allylsulphonate copolymer solution	11			PHN (CFO/CRL/ CRO/CRS/C SO)
Maltitol solution	0	1, 3	MTI	
Mango kernel oil, see Oil, edible: Mango kernel	34			MKO (VEO)
Mercaptobenzothiazol, sodium salt solution	5		SMB	MBT
2-Mercaptobenzothiazol (in liquid mixture)	5		BTM	SMD
Mesityl oxide	18	2	MSO	
Metam sodium solution	7		MSS	SMD
Methacrylic acid	4		MAD	
Methacrylic acid - Alkoxypoly(alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)	20	3	MAQ	
Methacrylic resin in ethylene dichloride	14		MRD	

Methacrylonitrile	15	2	MET	
Methane	31		MTH	LNG
3-Methoxy-1-butanol	20		MTX	
3-Methoxybutyl acetate	34		MOA	
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide, see Metolachlor	34			MCO
1-Methoxy-2-propyl acetate	34		MXP	
Methoxy triglycol, see Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	40		MTG	PAG (TGY)
Methyl acetate	34		MTT	
Methyl acetoacetate	34		MAE	
Methyl acetylene/Propadiene mixture	30		MAP	
Methyl acrylate	14		MAM	
Methyl alcohol	20	2	MAL	
Methylamine solutions (42% or less)	7	3	MSZ	
Methyl amyl acetate	34		MAC	
Methyl amyl alcohol	20		MAA	MIC

Methyl amyl ketone	18		MAK	
N-Methylaniline	9	3	MAN	
alpha-Methylbenzyl alcohol with Acetophenone (15% or less)	20	3	MBA	
Methyl bromide	36		MTB	
Methyl butanol, see the amyl alcohols	20			AAI/AAL/AAN/APM/ASE/IAA
Methyl butenes, see Pentene (all isomers)	30			PTX (AMW/AMZ/PTE)
Methyl butenol	20		MBL	
Methyl tert-butyl ether	41	2	MBE	
Methyl butyl ketone	18	2	MBB	MBK/MIK
Methyl 3-(3,5 di-tert-butyl-4-hydroxyphenyl) propionate crude melt	20		MYP	
Methylbutynol	20		MBY	MHB
3-Methyl butyraldehyde	19		MBR	
Methyl butyrate	34		MBU	

Methyl chloride	36		MTC	
Methylcyclohexane	31		MCY	
Methylcyclohexanemethanol (crude)	20		MYH	
Methylcyclopentadiene dimer	30		MCK	
Methylcyclopentadienyl manganese tricarbonyl	0	1, 3	MCT	MCW
Methylcyclopentadienyl manganese tricarbonyl (60-70%) in mineral oil	0	1	MCW	MCT
Methyl diethanolamine	8		MDE	MAB
Methyl ethyl ketone	18	2	MEK	
2-Methyl-6-ethyl aniline	9		MEN	
Methyl formate	34		MFM	
N-Methylglucamine solution (70% or less)	43	3	MGC	
2-Methylglutaronitrile	37		MLN	MGN
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	37	3	MGE	MLN
Methyl heptyl ketone	18		MHK	
2-Methyl-2-hydroxy-3-butyne	20		MHB	MBY

Methyl isoamyl ketone, see Methyl amyl ketone	18		MAJ	MAK
Methyl isobutyl carbinol, see Methyl amyl alcohol	20		MIC	MAA
Methyl isobutyl ketone	18	2	MIK	MBB/MBK
Methyl methacrylate	14		MMM	
Methylene bridged isobutylenated phenols	21		MBP	
Methylene chloride, see Dichloromethane	36			DCM
3-Methyl-3-methoxybutanol	20		MXB	
3-Methyl-3-methoxybutyl acetate	34		MMB	
Methyl naphthalene (molten)	32	3	MNA	
Methylolureas	19		MUS	
2-Methyl pentane, see Hexane (all isomers)	31			HXS (ALK/HXA/ IHA/NHX)
2-Methyl-1,5-pentanediamine	7		MPM	
4-Methyl-1-pentene, see Hexene (all isomers)	30		MTN	HEX (HXE/HXT/ HXU/HXV/

				MPN)
2-Methyl-1-pentene, see Hexene (all isomers)	30		MPN	HEX (HXE/HXT/ HXU/HXV/ MTN)
Methyl tert-pentyl ether, see tert-Amyl methyl ether	41			AYE
2-Methyl-1,3-propanediol	20		MDL	
Methyl propyl ketone	18		MKE	
2-Methyl-5-ethylpyridine	9		MEP	
Methylpyridine, see the Methylpyridines	9		MPQ	MPE/MPF/ MPR
2-Methylpyridine	9	3	MPR	MPE/MPF/ MPQ
3-Methylpyridine	9	3	MPE	MPF/MPQ/ MPR
4-Methylpyridine	9	3	MPF	MPE/MPQ/ MPR
N-Methyl-2-pyrrolidone	9	2	MPY	

Methyl salicylate	34		MES	
alpha-Methylstyrene	30		MSR	
3-(Methylthio)propionaldehyde	19		MTP	
Metolachlor	34		MCO	
Microsilica slurry	43		MOS	
Milk	43		MLK	
Mineral spirits	33		MNS	
Mixed C4 Cargoes	30		MIX	
Molasses	20		MOL	MON
Molasses residue (from fermentation)	0	1	MON	MOL
Molybdenum polysulfide long-chain alkyl dithiocarbamide complex	0	1, 3	MOP	
Monochlorodifluoromethane	36		MCF	
Monoethanolamine, see Ethanolamine	8		MEA	
Monoethylamine, see Ethylamine	7			EAM (EAN/EAO)
Monoisopropanolamine, see Isopropanolamine	8			MPA (PLA/PLX)

Morpholine	7	2	MPL	
Motor fuel anti-knock compound (containing lead alkyls)	0	1	MFA	
MTBE, see Methyl tert-butyl ether	41			MBE
Myrcene	30		MRE	
Naphtha:				
Aromatic	33		NAR	
Coal tar naphtha solvent	33		NCT	
Heavy	33		NAG	
Paraffinic	33		NPF	
Petroleum	33		PTN	
Solvent	33		NSV	
Stoddard solvent	33		NSS	
Varnish Makers' and Painters'	33		NVM	
Naphthalene (molten)	32	3	NTM	
Naphthalene still residue	32	2	NSR	
Naphthalene sulfonic acid, sodium salt solution	34		NSB	NSA

Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution	0	1	NFS	
Naphthenic acid	4		NTI	
Naphthenic acid, sodium salt solution	43		NTS	
Neodecanoic acid	4		NEA	DCO/NAT
NIAX POLYOL APP 240C	0	1, 2	NXP	
Nitrating acid (mixture of Sulfuric and Nitric acids)	0	1	NIA	
Nitric acid (70% and over)	0	1, 2, 3	NCE	NAC/NCD
Nitric acid (less than 70%)	3	2	NCD	NAC/NCE
Nitric Acid, fuming, see Nitric acid (70% and over)	0	1, 2, 3		NCE
Nitric Acid, red fuming, see Nitric acid (70% and over)	0	1, 2, 3		NCE
Nitrilotriacetic acid, trisodium salt solution	34	3	NCA	
Nitrobenzene	42		NTB	
o-Nitrochlorobenzene, see o-Chloronitrobenzene	42			CNO (CNP)

Nitroethane	42		NTE	
Nitroethane (80%)/Nitropropane (20%)	42	2, 3	NNL	NNM/NNO/ NPM/NPN/ NPP/NTE
Nitroethane/1-Nitropropane (each 15% or more) mixture	42	2	NNO	NNL/NNM/ NPM/NPN/ NPP/NTE
Nitrogen	0	1	NXX	
Nitrophenol (mixed isomers)	42		NPX	NIP/NPH/NTP
o-Nitrophenol (molten)	0	1, 2	NTP	NIP/NPH/NPX
Nitropropane (60%)/Nitroethane (40%) mixture	42		NNM	NNL/NNO/ NPM/NPN/ NPP/NTE
1-or 2-Nitropropane	42		NPM	NPN/NPP
o- or p-Nitrotoluenes	42	3	NIT	NIE/NTR/NTT
Nonane (all isomers), see Alkanes (C6–C9)	31		NAX	ALK (NAN)
Nonanoic acid (all isomers)	4		NNA	NAI/NIN

Nonanoic/Tridecanoic acid mixture	4		NAT	NAI/NIN/NNA
Non-edible industrial grade palm oil, see Oil, misc: Palm, non-edible industrial grade	34			OPB
Nonene (all isomers)	30	2	NOO	NNE/NON/OAM/OFX/OFY
Nonyl acetate	34		NAE	
Nonyl alcohol (all isomers)	20	2	NNS	ALR/DBC/NNI/NNN
Nonylbenzene, see Alkyl(C9+)benzenes	32			AKB
Nonyl methacrylate monomer	14		NMA	
Nonyl phenol	21		NNP	
Nonyl phenol poly(4+)ethoxylate, see Alkyl (C7-C11) phenol poly (4-12) ethoxylate	40		NPE	APN
Nonyl phenol sulfide (90% or less) solution, see Alkyl phenol sulfide (C8-C40)	34			AKS (NPS)
Nonylphenol (48-62%) / Phenol (42-48%)/ Dinonylphenol (1-10%) mixture	21		NYL	

Non-noxious Liquid Substance, (12) n.o.s. Cat OS	0	1	NOL	
Noxious Liquid Substance, NF, (1) n.o.s. Cat X	0	1		
Noxious Liquid Substance, F, (2) n.o.s. Cat X	0	1		
Noxious Liquid Substance, NF, (3) n.o.s. Cat X	0	1		
Noxious Liquid Substance, F, (4) n.o.s. Cat X	0	1		
Noxious Liquid Substance, NF, (5) n.o.s. Cat Y	0	1		
Noxious Liquid Substance, F, (6) n.o.s. Cat Y	0	1		
Noxious Liquid Substance, NF, (7) n.o.s. Cat Y	0	1		
Noxious Liquid Substance, F, (8) n.o.s. Cat Y	0	1		
Noxious Liquid Substance, NF, (9) n.o.s. Cat Z	0	1		
Noxious Liquid Substance, F, (10) n.o.s. Cat Z	0	1		
Noxious Liquid Substance, (11) n.o.s. Cat Z	0	1		
Nutmeg butter oil, see Oil, edible: Nutmeg butter	34			ONB (VEO)

1-Octadecene, see the olefin or alpha-olefin entries	30			OAM/OFZ
1-Octadecanol, see Stearyl alcohol	20			SYL (ALY/ASY)
Octadecenoamide solution	10		ODD	
Octadecenol (oleyl alcohol), see Alcohols (C13+)	20			ALY (AYL/ASY/ OYL)
Octamethylcyclotetrasiloxane	34	3	OSA	
Octane (all isomers), see Alkanes (C6-C9)	31		OAX	ALK (IOO/OAN)
Octanoic acid (all isomers)	4		OAY	OAA/EHO
Octanol (all isomers)	20	2	OCX	EHX/OPA/O TA
Octene (all isomers)	30	2	OTX	OAM/OFC/ OFY/OFW/ OTE
n-Octyl acetate	34		OAF	OAE
Octyl alcohol, see Octanol (all isomers)	20	2		OCX (EHX/IOA/ OTA)

Octyl aldehydes	19		OAL	EHA/IOC/OLX
Octylbenzenes, see Alkyl (C5-C8) benzenes	32			AKD
Octyl decyl adipate	34		ODA	
n-Octyl mercaptan	0		OME	
Octyl nitrates (all isomers), see Alkyl (C7-C9) nitrates	34		ONE	AKN
Octyl phenol	21		OPH	
Octyl phthalate, see Dioctyl phthalate	34			DAH (DIE/DIO/DLK/DOP)
Oil, edible:				
Beechnut	34		OBN	
Castor	34		OCA	VEO
Cocoa butter	34		OCB	VEO
Coconut	34		OCC	VEO
Cod liver	34		OCL	AFN
Corn	34		OCO	VEO

Cotton seed	34		OCS	VEO
Fish	34	2	OFS	AFN
Grape seed	34			
Groundnut	34		OGN	VEO
Hazelnut	34		OHN	VEO
Illipe	34		ILO	VEO
Lard	34		OLD	AFN
Maize, *see* Oil, edible: Corn	34			OCO (VEO)
Mango kernel	34	3	MKO	
Nutmeg butter	34		ONB	VEO
Olive	34		OOL	VEO
Palm	34	2	OPM	VEO
Palm kernel	34		OPO	VEO
Palm kernel olein	34		PKO	VEO
Palm kernel stearin	34		PKS	VEO
Palm mid fraction	34		PFM	VEO
Palm olein	34		PON	VEO

Palm stearin	34		PMS	VEO
Peanut	34		OPN	VEO
Poppy	34		OPY	VEO
Poppy Seed	34		OPS	VEO
Raisin seed	34		ORA	VEO
Rapeseed	34		ORP	VEO
Rapeseed, (low erucic acid containing less than 4% free fatty acids)	34		ORO	ORP/VEO
Rice bran	34		ORB	VEO
Safflower	34		OSF	VEO
Salad	34		OSL	VEO
Sesame	34		OSS	VEO
Shea butter	34		OSH	VEO
Soyabean	34	2	OSB	VEO
Sunflower, see Oil, edible: Sunflower seed	34		OSN	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:				
Acid mixture from soybean, corn (maize) and sunflower oil refining	34		AOM	
Aliphatic	33		OML	
Animal	34		OMA	AFN
Aromatic	33			

Camelina	34		OCI	
Cashew nut shell oil (untreated)	34		OCN	
Clarified	33		OCF	
Coal	33		OMC	
Coconut fatty acid	34	2	CFA	
Coconut, fatty acid methyl ester	34		OCM	
Cotton seed oil, fatty acid	34		CFY	
Crude	33		OFA	
Diesel	33		ODS	
Disulfide	0	1	ODI	
Gas, cracked	33		GOC	
Gas, high pour	33		OGP	
Gas, low pour	33		OGL	
Gas, low sulfur	33		OGS	
Heartcut distillate	33		OHD	
Jatropha	4		JTO	
Lanolin	34		OLL	AFN

Linseed	33		OLS	
Lubricating	33	2	OLB	
Mineral	33		OMN	
Mineral seal	33		OMS	
Motor	33		OMT	
Neatsfoot	33		ONF	AFN
Oiticica	34		OOI	
Palm acid	34		PLM	
Palm fatty acid distillate	34		PFD	
Palm oil, fatty acid methyl ester	34		OPE	
Palm kernel acid	34		OPK	
Palm kernel fatty acid distillate	34		PNG	
Palm, non-edible industrial grade	34		OPB	
Penetrating	33		OPT	
Perilla	34		OPR	
Pilchard	34		OPL	AFN

Pine	33		OPI	PNL
Rapeseed fatty acid methyl esters	34	3	ORP	
Residual	33		ORL	
Resin, distilled	33		ORR	
Road	33		ORD	
Rosin	33		ORN	
Seal	34			
Soapstock	34		OIS	
Soyabean (epoxidized)	34		OSC	EVO
Soyabean fatty acid methyl ester	34			OST
Spindle	33		OSD	
Tall	34		OTL	OTI/OTJ
Tall, crude	34	2	OTI	OTJ/OTL
Tall, distilled	34	2	OTJ	OTI/OTL
Tall, fatty acid	34	2	OTT	
Tall, fatty acid (resin acids less than 20%)	34	2	OTK	OTT

Tall pitch	34		OTP	
Transformer	33		OTF	
Tung	34		OTG	
Turbine	33		OTB	
Vacuum gas oil	33		OVC	
Oleamide solution, see Octadecenoamide solution	10			ODD
Olefin-Alkyl ester copolymer (molecular weight 2000+)	30		OCP	
Olefin mixture (C7-C9) C8 rich, stabilized	30	3	OFC	OFW/OFY/OFX
Olefin mixtures (C5-C7)	30	3	OFX	OAM/OFC/OFW/OFX/OFZ
Olefin mixtures (C5-C15)	30	3	OFY	OAM/OFC/OFW/OFX/OFZ
Olefins (C13+, all isomers)	30		OFZ	OAM/OFW
alpha-Olefins (C6-C18) mixtures	30		OAM	OFC/OFW/OFX/OFY/OFZ

Oleic acid	4		OLA	
Oleum	0	1, 2	OLM	SAC/SFX
Oleyl alcohol, see Alcohols (C13+)	20		OYL	ALY (ASY)
Oleylamine	7		OLY	
Olive oil, see Oil, edible: Olive	34			OOL (VEO)
Orange juice (concentrated)	0	1	OJC	OJN
Orange juice (not concentrated)	0	1	OJN	OJC
Organomolybdenum amide	10		OGA	
ORIMULSION, see Asphalt emulsion	33			ASQ
Oxyalkylated alkyl phenol formaldehyde	33		OPF	
Oxygenated aliphatic hydrocarbon mixture	0	1, 3	OAH	
Palm acid oil, see Oil, misc: Palm acid	34	3		PLM
Palm fatty acid distillate, see Oil, misc: Palm fatty acid distillate	34	3		PFD
Palm kernel acid oil, see Oil, misc: Palm kernel acid	34			PNO
Palm kernel acid oil, methyl ester, see Oil,	34			PNF

misc: Palm kernel acid, methyl ester				
Palm kernel oil, see Oil, edible: Palm kernel	34			OPO (VEO)
Palm kernel oil fatty acid distillate, see Oil, misc: Palm kernel fatty acid distillate	34			PNG
Palm kernel olein, see Oil, edible: Palm kernel olein	34	3		PKO (VEO)
Palm kernel stearin, see Oil, edible: Palm kernel stearin	34	3		PKS (VEO)
Palm mid fraction, see Oil, edible: Palm mid fraction	34	3		PFM (VEO)
Palm oil, see Oil, edible: Palm	34	2, 3		OPM (VEO)
Palm oil fatty acid methyl ester, see Oil, misc: Palm fatty acid methyl ester	34	3		OPE
Palm olein, see Oil, edible: Palm Olein	34	3		PON (VEO)
Palm stearin, see Oil, edible: Palm stearin	34			PMS (VEO)
Parachlorobenzotrifluoride	32		PBF	
Paraffin wax, see Waxes: Paraffin	31	3		WPF

n-Paraffins (C10-C20), see n-Alkanes (C10+)	31		PFN	ALJ
Paraldehyde	19		PDH	
Paraldehyde-Ammonia reaction product	9		PRB	
Peanut, see Oil, edible: Peanut	34			OPN (VEO)
Pentachloroethane	36		PCE	
Pentacosa(oxypropane-2,3-diyl)s	20		POY	
P*entadecanol, see* Alcohols (C13+)	20		PDC	ALY
1,3-Pentadiene	30		PDE	PDN
1,3-Pentadiene (greater than 50%), Cyclopentene and isomers, mixtures	30	3	PMM	
Pentaethylene glycol, see Polyethylene glycols	20			PEG
Pentaethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	40			PAG
Pentaethylenehexamine	7		PEN	
Pentaethylenehexamine/Tetraethylenepentamine mixture	7		PEP	
Pentane (all isomers)	31		PTY	IPT/PTA

Pentanoic acid	4		POC	
n-Pentanoic acid (64%)/2-Methyl butyric acid (36%) mixture	4		POJ	POC
Pentasodium salt of Diethylenetriamine pentaacetic acid solution, see Diethylenetriamine pentaacetic acid, pentasodium salt solution	43			DYS
Pentene (all isomers)	30		PTX	PTE
Pentyl aldehyde	19		PYL	
n-Pentyl propionate	34		PPE	
Perchloroethylene	36	2	PER	TTE
Petrolatum	33		PTL	
Phenol	21	2	PHN	PNS
Phenol solutions (2% or less)	43		PNS	PHN
1-Phenyl-1-xylyl ethane	32		PXE	
Phosphate esters	34		PZE	
Phosphate esters, alkyl(C12-C14)amine	7		PEA	
Phosphoric acid	1	2	PAC	

Phosphorus, yellow or white	0	1	PPW	PPB/PPR
Phosphosulfurized bicycle terpene	0	1	PBT	
Phthalate based polyester polyol	0	1, 2	PBE	
Phthalic anhydride (molten)	11		PAN	
PIB, see Poly(4+)Isobutylene (MW>224)	30			
alpha-Pinene	30		PIO	PIB/PIN
beta-Pinene	30		PIP	PIN/PIO
Pine oil, see Oil, misc: Pine	33		PNL	OPI
Piperazine (70% or less)	7		PIZ	PPB/PPZ
Piperazine (crude)	7		PZC	PPZ/PIZ
Piperazine, 68% solution	7			
Piperylene concentrate	30		PIC	PDE/PDN
Polyacrylic acid solution (40% or less)	43		PYA	
Polyalkenyl succinic anhydride amine	7		PSN	
Polyalkyl acrylate	14		PAY	
Polyalkyl(C18-C22) acrylate in Xylene	14		PIX	

Polyalkyl alkenamine succinimide, molybdenum oxysulfide	10		PSO	
Polyalkylene glycols/Polyalkylene glycol monoalkyl ethers mixtures	40		PPX	
Polyalkylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		PGB	PAG
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40	2	PAG	
Including:				
Diethylene glycol butyl ether	40			
Diethylene glycol ethyl ether	40			
Diethylene glycol n-hexyl ether	40			
Diethylene glycol methyl ether	40			
Diethylene glycol propyl ether	40			
Dipropylene glycol butyl ether	40			
Dipropylene glycol methyl ether	40			

Polyalkylene glycol butyl ether	40			
Polyethylene glycol monoalkyl ether	40			
Polypropylene glycol methyl ether	40			
Tetraethylene glycol methyl ether	40			
Triethylene glycol butyl ether	40			
Triethylene glycol ethyl ether	40			
Triethylene glycol methyl ether	40			
Tripropylene glycol methyl ether	40			
Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate	34		PAF	
Including:				
Diethylene glycol butyl ether acetate	34			
Diethylene glycol ethyl ether acetate	34			

Diethylene glycol methyl ether acetate	34			
Polyalkylene oxide polyol	20		PAO	
Polyalkyl (C10-C20) methacrylate	14		PMT	PYY
Polyalkyl methacrylate in mineral oil	14		PYY	PMT
Polyalkyl(C10-C18)methacrylate/Ethylene propylene copolymer mixture	14		PEM	
Polyalpha olefins	31		PYO	
Polyaluminum chloride solution	1		PLS	
Polybutadiene, hydroxyl terminated	20		PHT	
Polybutene	33		PLB	
Polybutenyl succinimide	10		PBS	
Polycarboxylic ester (C9+), see Ditridecyl adipate	34			DTY
Poly(2+)cyclic aromatics	32		PCA	
Polydimethylsiloxane, see Dimethylpolysiloxane	34			DMP
Polyether, borated	41		PED	

Polyether (molecular weight 1350+)	41		PYR	
Polyether polyols	41		PEO	
Polyethylene glycol	40		PEG	
Polyethylene glycol dimethyl ether	40		PEF	
Poly (ethylene glycol) methylbutenyl ether (MW > 1000)	40		PBN	
Polyethylene glycol monoalkyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		PEE	PAG
Polyethylene polyamines	7	2	PEB	PEY
Polyethylene polyamines (more than 50% C5-C20 Paraffin oil)	7	2, 3	PEY	PEB
Polyferric sulfate solution	34		PSS	
Polyglycerine/Sodium salts solution (containing less than 3% Sodium hydroxide)	20	2	PGT	PGS
Polyglycerol	20		PGL	
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less)	7	3	PIG	PIM

Polyisobutenamine in aliphatic (C10-C14) solvent	7	2	PIB	PIA
Polyisobutenyl anhydride adduct	11		PBA	
Polyisobutenyl succinimide	10		PIS	
Poly(4+)isobutylene	30		PIL	
Polyisobutylene succinic anhydride	11		PYS	
Polymerized esters	34		PYM	
Polymethylene polyphenyl isocyanate	12	2	PPI	
Polymethylsiloxane	34		PMX	
Polyolefin (molecular weight 300+)	33		PMW	PLF
Polyolefin amide alkeneamine (C17+)	33		POH	POD
Polyolefin amide alkeneamine (C28+), see Polyolefin amide alkenamine (C17+)	33		POD	POH
Polyolefin amide alkeneamine borate (C28-C250)	33		PAB	
Polyolefin amide alkeneamine in mineral oil	33		PLK	
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture	7		PMO	

Polyolefin amide alkeneamine polyol	20		PAP	
Polyolefin amine (C17+)	7		POG	
Polyolefinamine (C28-C250)	33		POM	
Polyolefinamine in alkyl(C2-C4)benzenes	32		POF	POR
Polyolefinamine in aromatic solvent	32	3	POR	POF
Polyolefin aminoester salts (MW 2000+)	34		PAE	
Polyolefin anhydride	11		PAR	
Polyolefin ester (C28-C250)	34		POS	
Polyolefin in mineral oil	30		PLF	PMW
Polyolefin phenolic amine (C28-C250)	9		PPH	
Polyolefin phosphorosulfide, barium derivative (C28-C250)	34		PPS	
Poly (oxyalkylene) alkenyl ether (MW>1000)	41		PXY	
Polyoxybutylene alcohol	41		PXA	
Poly(20)oxyethylene sorbitan monooleate	34		PSM	
Polyoxypropylenediamine (MW 2000)	7		PYD	

Poly(5+)propylene	30		PLQ	PLP
Polypropylene glycol	40	2	PGC	
Polypropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	40		PGM	PAG
Polysiloxane	34		PSX	
Polysiloxane/White spirit, low (15-20%) aromatic	34		PWS	
Poly(tetramethylene ether) glycols (mw 950-1050), see alpha-hydro-omega-Hydroxytetradeca(oxytetramethylene)	40		PYU	HTO
Polytetramethylene ether glycol	40		PYT	HTO/PYU/PYS
Poppy seed, see Oil, edible: Poppy seed	34			OPS (VEO)
Poppy, see Oil, edible: Poppy	34			OPY (VEO)
Potassium chloride solution	43		PCU	PCD/PSD
Potassium chloride solution (10% or more)	43		PCS	PCD/PCU
Potassium chloride solution (less than 26%)	43		PSD	CLM/DRL/PCS/PCU
Potassium formate solutions	34		PFR	

Potassium hydroxide solution, see Caustic potash solution	5	2		CPS/PTH
Potassium oleate	34		POE	
Potassium polysulfide/Potassium thiosulfide solution (41% or less)	0	1	PYP	PSF/PTF
Potassium salt of polyolefin acid	34		PSP	
Potassium thiosulfate (50% or less)	43		PTF	
Propane	31		PRP	LPG
n-Propanolamine	8		PLA	MPA/PAX
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer solution	0	1, 3	PLN	
Propionaldehyde	19		PAD	
beta-Propiolactone	18	3	PLT	
Propionic acid	4		PNA	
Propionic anhydride	11		PAH	
Propionitrile	37		PCN	
n-Propoxypropanol, see Propylene glycol monoalkyl ether	40		PXP	PGE

n-Propyl acetate	34		PAT	IAC
n-Propyl alcohol	20	2	PAL	IPA
n-Propyl chloride	36		PRC	
Propyl ether	41			IPE/PRE
n-Propylamine	7		PRA	IPO/IPP/IPQ
Propylbenzenes (all isomers), see Alkyl(C3-C4)benzenes	32		PBY	AKC (CUM/PBZ)
Propylene	30		PPL	
Propylene-butylene copolymer	30		PBP	
Propylene carbonate	34		PLC	
Propylene dimer	30		PDR	
Propylene glycol	20	2	PPG	
Propylene glycol n-butyl ether, see Propylene glycol monoalkyl ether	40		PGD	PGE
Propylene glycol ethyl ether, see Propylene glycol monoalkyl ether	40		PGY	PGE
Propylene glycol methyl ether, see Propylene glycol monoalkyl ether	40	2	PME	PGE

Propylene glycol methyl ether acetate	34	2	PGN	
Propylene glycol monoalkyl ether	40		PGE	
Including:				
n-Propoxypropanol	40			
Propylene glycol n-butyl ether	40			
Propylene glycol ethyl ether	40			
Propylene glycol methyl ether	40	2		
Propylene glycol propyl ether	40			
Propylene glycol phenyl ether	40		PGP	
Propylene glycol propyl ether, see Propylene glycol monoalkyl ether	40			PGE
Propylene oxide	16		POX	
Propylene tetramer	30		PTT	
Propylene trimer	30		PTR	
Propylene/Propane/MAPP gas mixture	30	2	PPM	
Pseudocumene, see Trimethylbenzene (all isomers)	32			TMB/TMD/ TME/TRE

Pyridine	9		PRD	
Pyridine bases, see Paraldehyde-Ammonia reaction product	9			PRB
Pyrolysis gasoline (containing Benzene)	32	3	PYG	GPY
Rapeseed oil (low erucic acid containing less than 4% free fatty acids), see Oil, edible: Rapeseed, (low erucic acid containing less than 4% free fatty acids)	34	3		ORO (VEO)
Rapeseed oil fatty acid methyl esters, see Oil, misc: Rapeseed fatty acid methyl esters	34	3		RSO
Rapeseed oil, see Oil, edible: Rapeseed	34			ORO (VEO)
Refrigerant gases	0	1	RFG	
Resin oil, distilled, see Oil, misc: Resin, distilled	33	3		ORR (ORS)
Rice bran oil, see Oil, misc: Rice bran	34			ORB
Rosin soap (disproportionated) solution	43		RSP	
Rosin, see Oil, misc: Rosin	33			ORN
ROUNDUP	7		RUP	GIO

Rum, see Alcoholic beverages	20			ABV
Safflower oil, see Oil, edible: Safflower	34			OSF (VEO)
Sewage sludge	43		SWS	
Shea butter, see Oil, edible: Shea butter	34	3		OSH (VEO)
Silica slurry	43		SLC	
Siloxanes	34		SLX	
Sludge, treated	43		SWA	
Sodium acetate solutions	34		SAN	
Sodium acetate, Glycol, Water mixture (1% or less Sodium hydroxide) (if non-flammable or non-combustible)	5	2	SAY	SAO/SAP/SAQ/SAY
Sodium acetate, Glycol, Water mixture (containing Sodium hydroxide)	5		SAQ	SAO/SAP/SAW/SAY
Sodium acetate, Glycol, Water mixture (not containing Sodium hydroxide)	34	2	SAW	SAO/SAP/SAQ/SAY
Sodium alkyl (C14-C17) sulfonates (60-65% solution)	34		SSA	AKA/AKE/SSU
Sodium aluminate solution	5		SAV	SAU

Sodium aluminate solution (45% or less)	5		SAU	SAV
Sodium aluminosilicate slurry	34		SLR	
Sodium benzoate	34		SBN	SBM
Sodium bicarbonate solution (less than 10%)	34		SBC	
Sodium borohydride (15% or less)/ Sodium hydroxide solution	5		SBX	CSS/SBH/SBI/SHD
Sodium bromide solution (less than 50%)	43	3	SBL	SBR
Sodium carbonate solutions	5		SCE	
Sodium chlorate solution (50% or less)	0	1, 2	SDD	SDC
Sodium cyanide solution	5		SCO	SCN/SCS
Sodium dichromate solution (70% or less)	0	1, 2	SDL	SCR
Sodium dimethyl naphthalene sulfonate solution, see Dimethyl naphthalene sulfonic acid, sodium salt solution	34			DNS
Sodium hydrogen sulfide (6% or less)/Sodium carbonate (3% or less) solution	0	1, 2	SSS	SCE/SHW

Sodium hydrogen sulfite solution (45% or less)	43		SHY	SHX
Sodium hydrosulfide solution (45% or less)	5	2	SHR	
Sodium hydrosulfide/Ammonium sulfide solution	5	2	SSA	ASF/ASS
Sodium hydroxide solution, see Caustic soda solution	5	2		CSS (SHD)
Sodium hypochlorite solution (15% or less)	5		SHP	SHC/SHQ
Sodium hypochlorite solution (20% or less)	5		SHQ	SHC/SHP
Sodium lignosulfonate solution	43		SLG	LNL
Sodium long-chain alkyl salicylate (C13+)	34		SLS	
Sodium 2-mercaptobenzothiazol solution, see Mercaptobenzothiazol, sodium salt solution	5			SMB
Sodium methoxide (25% in methanol)	0	1	SMO	
Sodium methylate 21-30% in methanol	0	1, 2 ,3	SMT	SMS
Sodium naphthalene sulfonate solution, see Naphthalene sulfonic acid (40% or less), sodium salt solution (40% or less)	34		SNS	NSA (NSB)

Sodium naphthenate solution, see Naphthenic acid, sodium salt solution	43			NTS
Sodium nitrite solution	5		SNI	SNT
Sodium N-methyl dithio carbamate solution, see Metam sodium solution	7		MSS	SMD
Sodium petroleum sulfonate	34		SPS	
Sodium poly(4+)acrylate solution	43	2	SOP	SOO
Sodium polyacrylate solution	43	2	SOO	SOP
Sodium salt of Ferric hydroxyethylethylenediaminetriacetic acid solution, see Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	43		STA	FHX
Sodium silicate solution	43	2	SSN	SSC
Sodium sulfate solution	34	3	SST	SSO
Sodium sulfide solution (15% or less)	43		SDR	SDS
Sodium sulfide/Hydrosulfide solution (H_2S 15 ppm or less)	0	1, 2	SSH	SDS/SHR/SSI/SSJ
Sodium sulfide/Hydrosulfide solution (H_2S greater than 15 ppm but less than 200 ppm)	0	1, 2	SSI	SDS/SHR/SSH/SSJ

Sodium sulfide/Hydrosulfide solution (H_2S greater than 200 ppm)	0	1, 2	SSJ	SDS/SHR/SSH/SSI
Sodium sulfite solution (25% or less)	43		SUP	SSF/SUS
Sodium tartrates/Sodium succinates solution	43		STM	
Sodium thiocyanate solution (56% or less)	0	1, 2	STS	SCY
Sorbitol solution	20		SBU	SBT
Soyabean fatty acid methyl ester, see Oil, misc: Soyabean fatty acid methyl ester	34			OST
Soyabean oil (expoxidized)	34		OSC	
Soyabean oil, see Oil, edible: Soyabean	34	2		OSB (VEO)
Stearic acid, see Fatty acids (saturated, C14+)	34		SRA	FAD (FAB/FAE/FDI/FDT)
Stearyl alcohol	20		SYL	ALY/ASY
Stoddard solvent, see Naphtha: Stoddard solvent	33			NSS
Styrene monomer	30		STY	
Sulfohydrocarbon (C3-C88)	33		SFO	

Sulfohydrocarbon, long-chain (C18+) alkylamine mixture	7		SFX	
Sulfolane	39		SFL	
Sulfonated polyacrylate solution	43	2	SPA	
Sulfur (molten)	0	1, 2	SXX	
Sulfur dioxide	0	1	SFD	
Sulfuric acid	2	2	SFA	SAC
Sulfuric acid, spent	2	2	SAC	SFA
Sulfurized fat (C14–C20)	33		SFT	
Sulfurized polyolefinamide	10		SPY	
Sulfurized polyolefinamide alkene(C28-C250) amine	33		SPO	
Sunflower seed oil, see Oil, edible: Sunflower seed	34			OSN (VEO)
Sym-trichlorobenzene, see 1,2,4-Trichlorobenzene	36			
Tall oil, see Oil, misc: Tall	34			OTL (OTI/OTJ)

Tall oil fatty acid (resin acids less than 20%), see Oil, misc: Tall oil fatty acid (resin less than 20%)	34	2		OTK (OTT)
Tall oil fatty acid, barium salt	0	1, 2	TOB	
Tall oil soap (crude)	34		TOR	TOS
Tall oil soap (disproportionated) solution	43		TOS	
Tall oil, crude, see Oil, misc: Tall, crude	34	2, 3		OTI (OTJ/OTL)
Tall oil, distilled, see Oil, misc: Tall, distilled	34	3		OTJ (OTI/OTL)
Tall oil, fatty acid, see Oil, misc: Tall fatty acid	34	2		OTT
Tall oil, pitch, see Oil, misc: Tall pitch	34	3		OTP (OTI/OTJ/OTL)
Tallow	34	2	TLO	
Tallow alcohol, see Alcohols (C13+)	20	2	TFA	ALY (ASY)
Tallow alkyl nitrile	37		TAN	
Tallow fatty acid	34	2	TFD	

Tallow fatty alcohol, see Alcohols (C13+)	20	2	TFA	ALY
TAME, see tert-Amyl methyl ether	41			AYE
Tertiary butylphenols	21		BLT	BTP
Tetrachloroethane	36		TEC	
1,1,2,2-Tetrachloroethane, see Tetrachloroethane	36		TEC	TEE
Tetradecanol, see Alcohols (C13+)	20		TTN	ALY
Tetradecene, see olefins or alpha-olefin entries	30			OAM/OFY/ OFW/OFZ/T DD
Tetradecylbenzene, see Alkyl(C9+) benzenes	32		TDB	AKB
Tetraethyl silicate monomer/oligomer (20% in ethanol)	0	1, 3	TSM	
Tetraethylene glycol	40		TTG	
Tetraethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40			PAG
Tetraethylenepentamine	7	2	TTP	
Tetrahydrofuran	41		THF	

Tetrahydronaphthalene	32		THN	
Tetramethylbenzene (all isomers)	32		TTC	TTB
1,2,3,5-Tetramethylbenzene, see Tetramethylbenzene (all isomers)	32		TTB	TTC
Tetrapropylbenzene, see Alkyl(C9+)benzenes	32			AKB
Tetrasodium salt of ethylenediaminetetraacetic acid solution, see Ethylenediaminetetraacetic acid, tetrasodium salt solution	43			EDS
Titanium dioxide slurry	43		TDS	
Titanium tetrachloride	2		TTT	
Toluene	32	2	TOL	
Toluene diisocyanate	12	2	TDJ	TDI
Toluenediamine	9		TDA	
o-Toluidine	9	2	TLI	TOD/TOI
Triarylphosphate, see Triisopropylated phenyl phosphates	34		TRA	TPL
Tributyl phosphate	34		TBP	

1,2,3-Trichlorobenzene (molten)	36	3	TBZ	TCB
1,2,4-Trichlorobenzene	36		TCB	TBZ
1,2,3-Trichlorobenzol, see 1,2,3-Trichlorobenzene (molten)	36		TBZ	TCB
1,1,1-Trichloroethane	36	2	TCE	TCM
1,1,2-Trichloroethane	36		TCM	TCE
Trichloroethylene	36	2	TCL	
1,1,2-Trichloro-1,2,2-trifluoroethane	36		TTF	
Tricresyl phosphate (containing 1% or more ortho-isomer)	34	3	TCO	TCP/TCQ
Tricresyl phosphate (containing less than 1% ortho-isomer)	34	3	TCP	TCO/TCQ
1,2,3-Trichloropropane	36	2	TCN	
Tridecane (all isomers), see Alkanes (C10+) (all isomers)	31		TRD	ALV (ALJ)
Tridecanoic acid	34		TDO	
Tridecanol, see Alcohols (C13+)	20		TDN	ALY (ASK/ASY/ AYK/LAL)

Tridecene, see Olefins (C13+, all isomers)	30		TRD	OAM/OFY/ OFW/OFZ/T DC
Tridecyl acetate	34		TAE	
Tridecylbenzene, see Alkyl(C9+) benzenes	32		TRB	AKB
Triethanolamine	8	2	TEA	
Triethylamine	7		TEN	
Triethylbenzene	32		TEB	
Triethylene glycol	40		TEG	
Triethylene glycol butyl ether mixture	40		TBD	
Triethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl (C1–C6) ether	40		TBE	PAG
Triethylene glycol di-(2-ethylbutyrate)	34		TGD	
Triethylene glycol dibenzoate	34		TGB	
Triethylene glycol ether mixture	40		TYM	
Triethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether	40		TGE	PAG

Triethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		TGY	PAG
Triethylenetetramine	7	2	TET	
Triethyl phosphate	34		TPS	
Triethyl phosphite	34	2	TPI	
Triisobutylene	30		TIB	
Triisooctyl trimellitate	34		TIS	
Triisopropanolamine	8		TIP	
Triisopropanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution	43			DTI
Triisopropylated phenyl phosphates	34		TPL	
Trimethylacetic acid	4		TAA	
Trimethylamine solution (30% or less)	7		TMT	TMA
Trimethylbenzene (all isomers)	32		TRE	TMB/TMD/ TME
Trimethyl nonanol, see Dodecanol	20			DDN (ASK/ASY/

				LAL)
Trimethylol propane polyethoxylated	20		TPR	
Trimethyl phosphite	34	2	TPP	
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-)	12		THI	
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-)	7		THA	
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		TMR	
Triphenylborane (10% or less)/Caustic soda solution	5		TPB	
1,3,5-Trioxane	41	2	TRO	
Tripropylene, see Propylene trimer	30			PTR
Tripropylene glycol	40		TGC	

Tripropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		TGM	PAG
Trisodium nitrilotriacetate solution, see Nitrilotriacetic acid, trisodium salt solution	34		TSO	NCA (TSN)
Trisodium phosphate solution	5		TSP	
Trisodium salt of N-(Hydroxyethyl)ethylenediaminetriacetic acid solution, see N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	43			HET
Trixylyl phosphate	34		TRP	
Trixylenyl phosphate, see Trixylyl phosphate	34			TRP
Tung oil, see Oil, misc: Tung	34			OTG
Turpentine	30		TPT	
Turpentine substitute, see White spirit (low (15-20%) aromatic)	33			WSL (WSP)
Ucarsol CR Solvent 302 SG	8		UCS	
Undecane (all isomers), see Alkanes (C10+) (all isomers)	31		UDN	ALV (ALJ)

Undecanoic acid	4		UDA	
Undecanol, *see* Undecyl alcohol	20			UND (ALR)
Undecene	30		UDD	UDC
1-Undecene	30		UDC	UDD
Undecyl alcohol	20		UND	ALR
Undecylbenzene, *see* Alkyl(C9+) benzenes	32		UDB	AKB
Urea solution	43		USL	URE
Urea, Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	0	1	UPX	
Urea/Ammonium phosphate solution	43		UAP	
Urea/Ammonium nitrate solution (containing less than 1% free Ammonia)	43	2	UAU	ANU/UAS/ UAT/UAV
Urea/Ammonium nitrate solution (containing 1% or more Ammonia)	6		UAV	ANU/UAS/ UAT/UAU
Vacuum gas oil, *see* oil misc: Vacuum gas oil	33		OVC	
Valeraldehyde (all isomers)	19		VAK	IVA/VAL

Vanillin black liquor (free alkali content 3% or more)	5		VBL	
Vegetable acid oils, n.o.s.	34		VAD	
Including:				
Corn acid oil	34			
Cottonseed acid oil	34			
Dark mixed acid oil	34			
Groundnut acid oil	34			
Mixed acid oil	34			
Mixed general acid oil	34			
Mixed hard acid oil	34			
Mixed soft acid oil	34			
Rapeseed acid oil	34			
Safflower acid oil	34			
Soya acid oil	34			
Sunflower seed acid oil	34			
Vegetable fatty acid distillates, n.o.s.	34	3	VFD	

Including:				
Palm kernel fatty acid distillate	*34*			
Palm oil fatty acid distillate	*34*			
Tall fatty acid distillate	*34*			
Tall oil fatty acid distillate	*34*			
Vegetable oils, n.o.s.	34		VEO	
Including:				
Beechnut oil	34			
Camelina oil	34			
Cashew nut shell	34			
Castor oil	34			
Cocoa butter	34			
Coconut oil	34	*2*		
Corn oil	34			
Cotton seed oil	34			
Croton oil	34			

Grape seed oil	34			
Groundnut oil	34			
Hazelnut oil	34			
Illipe oil	34			
Jatropha oil	4			
Linseed oil	34			
Mango kernel oil	34			
Nutmeg butter	34			
Oiticica oil	34			
Olive oil	34			
Palm kernel oil	34			
Palm kernel olein	34			
Palm kernel stearin	34			
Palm mid fraction	34			
Palm, non-edible industrial grade	34			
Palm oil	34	2		

Palm olein	34			
Palm stearin	34			
Peanut oil	34			
Peel oil (oranges and lemons)	34			
Perilla oil	34			
Pine oil	34			
Poppy seed oil	34			
Poppy oil	34			
Raisin seed oil	34			
Rapeseed oil	34			
Rapeseed (low erucic acid containing less than 4% free fatty acids)	34			
Resin, distilled	33			
Resin oil	33			
Rice bran oil	34			
Rosin oil	34			

Safflower oil	34			
Salad oil	34			
Sesame oil	34			
Shea butter	34			
Soyabean oil	34	2		
Sunflower seed oil	34			
Tall	34			
Tall, crude	34			
Tall, distilled	34			
Tall, pitch	34			
Tucum oil	34			
Tung oil	34			
Walnut oil	34			
Vegetable protein solution (hydrolyzed)	43		VPS	
Vinyl acetate	13	2	VAM	
Vinyl chloride	35		VCM	

Vinyl ethyl ether	13		VEE	
Vinylidene chloride	35		VCI	
Vinyl neodecanoate	13	2	VND	
Vinyltoluene	13		VNT	
Water	43		WTR	
Waxes:			WAX	
Candelilla	34		WCD	
Carnauba	34		WCA	
Paraffin	31		WPF	
Petroleum	33		WPT	
White spirit, see White spirit (low (15-20%) aromatic)	33		WSP	WSL
White spirit (low (15-20%) aromatic)	33		WSL	WSP
Wine, see Alcoholic beverages	20		ABV	
Wood lignin with Sodium acetate/oxalate	0	1, 3	WOL	
Xylenes	32	2	XLX	XLM/XLO/ XLP

Xylenes/Ethylbenzene (10% or more) mixture	32		XEB	
Xylenols	21		XYL	
Zinc alkaryl dithiophosphate (C7-C16)	34		ZAD	
Zinc alkenyl carboxamide	10		ZAA	WSL
Zinc alkyl dithiophosphate (C3-C14)	34		ZAP	
Zinc bromide/Calcium bromide solution, see Drilling brine (containing Zinc salts)	43			DZB

Notes:

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 Figure 1 to 46 CFR Part 150 (Compatibility Chart).

2. See Appendix I to 46 CFR Part 150 (Exceptions to the Chart).

3. Entries which were added from the March 2012 Annex to the 2007 edition of the IBC Code.

4. *Italicized* words are not part of the cargo name but may be used in addition to the cargo name.

5. Revise Table II to Part 150, as amended by the interim rule published on August 16, 2013 (78 FR 50148), effective January 16, 2017, as delayed at 79 FR 68132, November 14, 2014, to read as follows:

Table II to Part 150 – Grouping of Cargoes

0. UNASSIGNED CARGOES
Acetone cyanohydrin
Alkenoic acid, polyhydroxy ester borated
Alkyl benzene distillation bottoms
Alkyl (C11-C17) benzene sulfonic acid
Alkylbenzene sulfonic acid (less than 4%)
Alkyl (C18-C28) toluenesulfonic acid
Aluminum chloride/Hydrochloric acid solution
Aluminum chloride/Hydrogen chloride solution
Ammonium hydrogen phosphate solution
Ammonium nitrate solution (45% or less)
Ammonium nitrate solution (93% or less)
Ammonium thiocyanate/Ammonium thiosulfate solution
Argon, liquefied
Benzenesulfonyl chloride[1]
gamma-Butyrolactone[1]
Carbon dioxide (high purity)
Carbon dioxide (reclaimed quality)
Carbon dioxide, liquefied
Chlorine
2-Chloro-4-ethylamino-6-isopropylamino-5-triazine solution
Chlorosulfonic acid
Decyloxytetrahydrothiophene dioxide
2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution (70% or less)[1]

Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid solution[1]
Dimethyl disulfide
Diphenylol propane-Epichlorohydrin resins
tert-Dodecanethiol[1]
Dodecyl hydroxypropyl sulfide[1]
Dodecylbenzenesulfonic acid[1]
Ethylene oxide
Fuming sulfuric acid
Hydrogen peroxide solutions (over 60% but not over 70% by mass)
Hydrogen peroxide solutions (over 8% but not over 60% by mass)
Hydrogenated starch hydrolysate
Lactic acid[1]
Liquid chemical wastes
Long-chain alkaryl sulfonic acid (C16-C60)[1]
Magnesium chloride solution[1]
Maltitol solution
Methylcyclopentadienyl manganese tricarbonyl
Methylcyclopentadienyl manganese tricarbonyl (60-70%) in mineral oil
Molasses residue (from fermentation)
Molybdenum polysulfide long-chain alkyl dithiocarbamide complex
Motor fuel anti-knock compound (containing lead alkyls)
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution
NIAX POLYOL APP 240C[1]
Nitrating acid (mixture of Sulfuric and Nitric acids)
Nitric acid (70% and over)[1]
Nitric Acid, fuming
Nitric Acid, red fuming
Nitrogen

o-Nitrophenol (molten)[1]
Non-noxious Liquid Substance, (12) n.o.s. Cat OS
Noxious Liquid Substance, NF, (1) n.o.s. Cat X
Noxious Liquid Substance, F, (2) n.o.s. Cat X
Noxious Liquid Substance, NF, (3) n.o.s. Cat X
Noxious Liquid Substance, F, (4) n.o.s. Cat X
Noxious Liquid Substance, NF, (5) n.o.s. Cat Y
Noxious Liquid Substance, F, (6) n.o.s. Cat Y
Noxious Liquid Substance, NF, (7) n.o.s. Cat Y
Noxious Liquid Substance, F, (8) n.o.s. Cat Y
Noxious Liquid Substance, NF, (9) n.o.s. Cat Z
Noxious Liquid Substance, F, (10) n.o.s. Cat Z
Noxious Liquid Substance, (11) n.o.s. Cat Z
n-Octyl Mercaptan
Oleum[1]
Orange juice (concentrated)
Orange juice (not concentrated)
Oxygenated aliphatic hydrocarbon mixture
Phosphorus, yellow or white
Phosphosulfurized bicycle terpene
Phthalate based polyester polyol[1]
Potassium polysulfide/Potassium thiosulfide solution (41% or less)
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer solution
Refrigerant gases
Sodium chlorate solution (50% or less)[1]

Sodium dichromate solution (70% or less)[1]
Sodium hydrogen sulfide (6% or less)/Sodium carbonate (3% or less) solution[1]
Sodium methoxide (25% in methanol)
Sodium methylate 21-30% in methanol
Sodium sulfide/Hydrosulfide solution (H_2S 15 ppm or less)
Sodium sulfide/Hydrosulfide solution (H_2S greater than 15 ppm but less than 200 ppm)[1]
Sodium sulfide/Hydrosulfide solution (H_2S greater than 200 ppm)
Sodium thiocyanate solution (56% or less)[1]
Sulfur (molten)
Sulfur dioxide
Tall oil fatty acid, barium salt[1]
Tetraethyl silicate monomer/oligomer (20% in ethanol)
Urea, Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution
Wood lignin with Sodium acetate/oxalate
1. NON-OXIDIZING MINERAL ACIDS
Di-(2-ethylhexyl) phosphoric acid
Ferric chloride solution
Fluorosilicic acid (20-30%) in water solution
Fluorosilicic acid (30% or less)
Hydrochloric acid
Hydrofluorosilicic acid, (25 % or less)
Phosphoric acid
Polyaluminum chloride solution
2. SULFURIC ACIDS
Sulfuric acid[1]
Sulfuric acid, spent
Titanium tetrachloride
3. NITRIC ACID

Ferric nitrate/Nitric acid solution
Nitric acid (less than 70%)
4. ORGANIC ACIDS
Acetic acid[1]
Acrylic acid[1]
Butyric acid
Chloroacetic acid (80% or less)
2- or 3-Chloropropionic acid
Citric acid (70% or less)
Decanoic acid
2,2-Dichloropropionic acid
Dimethyl octanoic acid
2-Ethylhexanoic acid
Formic acid[1]
Formic acid (85% or less)
Formic acid (over 85%)
Formic acid mixture (containing up to 18% Propionic acid and up to 25% Sodium formate)
Glycolic acid solution (70% or less)
Glyoxylic acid solution (50% or less)
n-Heptanoic acid
1,6-Hexanediol, distillation overheads
Hexanoic acid
2-Hydroxy-4-(methylthio)butanoic acid
Jatropha oil
Long-chain alkyl (C13+) salicylic acid
Methacrylic acid
Naphthenic acid
Neodecanoic acid
Nonanoic acid (all isomers)
Nonanoic/Tridecanoic acid mixture
Octanoic acid (all isomers)
Oleic acid
Pentanoic acid
n-Pentanoic acid (64%)/2-Methyl butryic acid (36%) mixture
Propionic acid
Trimethylacetic acid

Undecanoic acid
5. CAUSTICS
Aluminum hydroxide/sodium hydroxide/sodium carbonate solution (40% or less)
Ammonium sulfide solution (45% or less)
Calcium hydroxide slurry
Calcium hypochlorite solution (15% or less)
Calcium hypochlorite solution (more than 15%)
Caustic potash solution[1]
Caustic soda solution[1]
Cresylate spent caustic
Cresylic acid, sodium salt solution
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution
Kraft black liquor
Kraft pulping liquors (free alkali content 3% or more) (Black, Green, or White)
Magnesium hydroxide slurry
Mercaptobenzothiazol, sodium salt solution
2-Mercaptobenzothiazol (in liquid mixture)
Potassium hydroxide solution[1]
Sodium acetate, Glycol, Water mixture (1% or less Sodium hydroxide) (if non-flammable or non-combustible)
Sodium acetate, Glycol, Water mixture (containing Sodium hydroxide)
Sodium aluminate solution
Sodium aluminate solution (45% or less)
Sodium borohydride (15% or less)/ Sodium hydroxide solution
Sodium carbonate solutions
Sodium cyanide solution
Sodium hydrosulfide solution (45% or less)[1]

Sodium hydrosulfide/Ammonium sulfide solution[1]
Sodium hydroxide solution[1]
Sodium hypochlorite solution (15% or less)
Sodium hypochlorite solution (20% or less)
Sodium 2-mercaptobenzothiazol solution
Sodium nitrite solution
Triphenylborane (10% or less)/Caustic soda solution
Trisodium phosphate solution
Vanillin black liquor (free alkali content 3% or more)
6. AMMONIA
Ammonia, anhydrous
Ammonia, aqueous (28% or less Ammonia)
Ammonium hydroxide (28% or less Ammonia)
Ammonium nitrate/Urea solution (containing Ammonia)
Urea/Ammonium nitrate solution (containing 1% or more Ammonia)
7. ALIPHATIC AMINES
Alkyl amine (C17+)
Alkyl (C12+) dimethylamine
N-Aminoethylpiperazine
Butylamine (all isomers)
Crude piperazine
Cyclohexylamine
Dibutylamine
Diethylamine[1]
Diethylenetriamine[1]
Diisobutylamine
Diisopropylamine
Dimethylamine
Dimethylamine solution (45% or less)
Dimethylamine solution (greater than 45% but not greater than 55%)

Dimethylamine solution (greater than 55% but not greater than 65%)
N,N-Dimethylcyclohexylamine
Dimethyldodecylamine
N,N-Dimethyldodecylamine
Di-n-propylamine
Dodecylamine/Tetradecylamine mixture
Dodecyldimethylamine/ Tetradecyldimethylamine mixture
Ethoxylated tallow alkyl amine
Ethoxylated tallow alkyl amine, glycol mixture
Ethoxylated tallow amine (>95%)
Ethylamine[1]
Ethylamine solution (72% or less)
N-Ethylbutylamine
N-ethylcyclohexylamine
Ethyleneamine EA 1302[1]
Ethylenediamine[1]
2-Ethylhexylamine
N-ethylmethylallylamine
Glycine, sodium salt solution
Glyphosate solution (not containing surfactant)
Hexamethylenediamine (molten)
Hexamethylenediamine solution
Hexamethyleneimine
Hexamethylenetetramine solutions
bis (Hydrogenated tallow alkyl) methyl amines
Isophorone diamine
Isopropylamine
Isopropylamine (70% or less) solution
iso-Propylamine solution
Long-chain alkyl amine
Long-chain polyetheramine in alkyl(C2-C4)benzenes
Metam sodium solution
Methylamine solutions (42% or less)

2-Methyl-1,5-pentanediamine
Monoethylamine
Morpholine[1]
Oleylamine
Pentaethylenehexamine
Pentaethylenehexamine/Tetraethylenepentamine mixture
Phosphate esters, alkyl(C12-C14)amine
Piperazine (70% or less)
Piperazine (crude)
Piperazine, 68% solution
Polyalkenyl succinic anhydride amine
Polyethylene polyamines[1]
Polyethylene polyamines (more than 50% C5-C20 Paraffin oil)
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less)
Polyisobutenamine in aliphatic (C10-C14) solvent
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture
Polyolefin amine (C17+)
Polyoxypropylenediamine (MW 2000)
n-Propylamine
ROUNDUP
Sodium N-methyl dithio carbamate solution
Sulfohydrocarbon, long-chain (C18+) alkylamine mixture
Tetraethylenepentamine[1]
Triethylamine
Triethylenetetramine[1]
Trimethylamine solution (30% or less)
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-)
8. ALKANOLAMINES
Alkyl (C12-C16) propoxyamine ethoxylates

Aminoethyldiethanolamine/ Aminoethylethanolamine solution
2-(2-Aminoethoxy)ethanol
Aminoethylethanolamine
2-Amino-2-methyl-1-propanol
Diethanolamine
Diethylaminoethanol
Diethylethanolamine
Diisopropanolamine
Dimethylethanolamine[1]
Ethanolamine
Ethoxylated alkyloxy alkyl amine
Ethoxylated long-chain (C16+) alkyloxyalkylamine
Isopropanolamine
Isopropanolamine solution
iso-Propanolamine
Linear alkyl (C12-C16) propoxyamine ethoxylates
Methyl diethanolamine
Monoethanolamine
Monoisopropanolamine
n-Propanolamine
Triethanolamine
Triisopropanolamine
Ucarsol CR Solvent 302 SG
9. AROMATIC AMINES
Alkyl (C8-C9) phenylamine in aromatic solvents
Amine C-6, morpholine process residue
Aniline
Calcium long-chain alkyl phenolic amine (C8-C40)
4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution
Dialkyl (C8-C9) diphenylamines
2,6-Diethylaniline
Dimethylamine salt of 4-Chloro-2-methylphenoxyacetic acid solution

2,6-Dimethylaniline
Diphenylamine (molten)
Diphenylamine, reaction product with 2,2,4-trimethylpentene
Diphenylamines, alkylated
2-Ethyl-6-methyl-N-(1′-methyl-2-methoxyethyl)aniline
N-Methylaniline
2-Methyl-6-ethyl aniline
N-Methyl-5-ethylpyridine
Methylpyridine
2-Methylpyridine
3-Methylpyridine
4-Methylpyridine
N-Methyl-2-pyrrolidone[1]
Paraldehyde-Ammonia reaction product
Polyolefin phenolic amine (C28-C250)
Pyridine
Pyridine bases
Toluenediamine
o-Toluidine
10. AMIDES
Acetochlor
Acrylamide solution (50% or less)
Alkenyl (C11+) amide
N,N-Dimethylacetamide
N,N-Dimethylacetamide solution (40% or less)
Dimethylformamide
Formamide
N,N-bis(2-Hydroxyethyl) oleamide
Octadecenoamide solution
Oleamide solution
Organomolybdenum amide
Polyalkyl alkenamine succinimide, molybdenum oxysulfide
Polybutenyl succinimide
Polyisobutenyl succinimide
Sulfurized polyolefinamide

Zinc alkenyl carboxamide
11. ORGANIC ANHYDRIDES
Acetic anhydride
Alkenyl (C16-C20) succinic anhydride
Alkyl succinic anhydride
Maleic anhydride
Maleic anhydride/sodium allylsulphonate copolymer solution
Phthalic anhydride (molten)
Polyisobutenyl anhydride adduct
Polyisobutylene succinic anhydride
Polyolefin anhydride
Propionic anhydride
12. ISOCYANATES
Diphenylmethane diisocyanate
Hexamethylene diisocyanate
Isophorone diisocyanate
Polymethylene polyphenyl isocyanate
Toluene diisocyanate
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-)
13. VINYL ACETATE
Vinyl acetate
Vinyl ethyl ether
Vinyl neodecanoate
Vinyltoluene
14. ACRYLATES
Butyl acrylate (all isomers)
Butyl methacrylate
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture
Cetyl/Eicosyl methacrylate mixture
Decyl acrylate
Dodecyl methacrylate
Dodecyl/Octadecyl methacrylate mixture
Dodecyl/Pentadecyl methacrylate mixture
Ethyl acrylate
2-Ethylhexyl acrylate

Ethyl methacrylate
2-Hydroxyethyl acrylate[1]
Isobutyl methacrylate
Methacrylic resin in ethylene dichloride
Methyl acrylate
Methyl methacrylate
Nonyl methacrylate monomer
Polyalkyl acrylate
Polyalkyl(C18-C22) acrylate in Xylene
Polyalkyl (C10-C20) methacrylate
Polyalkyl methacrylate in mineral oil
Polyalkyl(C10-C18)methacrylate/Ethylene propylene copolymer mixture
15. SUBSTITUTED ALLYLS
Acrylonitrile[1]
Allyl alcohol[1]
Allyl chloride
Dichloropropene (all isomers)
1,3-Dichloropropene
Dichloropropene/Dichloropropane mixtures
Methacrylonitrile
16. ALKYLENE OXIDES
Brominated Epoxy Resin in Acetone
1,2-Butylene oxide
Diglycidyl ether of Bisphenol A
Diglycidyl ether of Bisphenol F
Epoxy resin
Ethylene oxide/Propylene oxide mixture
Ethylene oxide/Propylene oxide mixture with an Ethylene oxide content not more than 30% by mass
Propylene oxide
17. EPICHLOROHYDRIN
Chlorohydrins
Chlorohydrins (crude)
Epichlorohydrin
18. KETONES
Acetone[1]

Acetophenone
Amyl methyl ketone
2-Butanone
Butyl heptyl ketone
Butyl methyl ketone
Camphor oil (light)
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one[1]
Cyclohexanone
Cyclohexanone/Cyclohexanol mixtures
Diisobutyl ketone
Ethyl amyl ketone
Isophorone
Ketone residue
Mesityl oxide[1]
Methyl amyl ketone
Methyl butyl ketone
Methyl ethyl ketone[1]
Methyl heptyl ketone
Methyl isoamyl ketone
Methyl isobutyl ketone[1]
Methyl propyl ketone
beta-Propiolactone
19. ALDEHYDES
Acetaldehyde
Acrolein[1]
Butyraldehyde (all isomers)
Crotonaldehyde[1]
Crude isononylaldehyde
Decaldehyde
2-Ethylhexaldehyde
2-Ethyl-3-propylacrolein[1]
Formaldehyde (50% or more)/Methanol mixtures[1]
Formaldehyde solutions (37% - 50%)[1]
Formaldehyde solutions (45% or less)[1]
Furfural

Glutaraldehyde solutions (50% or less)
Glyoxal solution (40% or less)
Isononylaldehyde (crude)
3-Methyl butyraldehyde
Methylolureas
3-(Methylthio)propionaldehyde
Octyl aldehydes
Paraldehyde
Pentyl aldehyde
Propionaldehyde
Valeraldehyde (all isomers)
20. ALCOHOLS, GLYCOLS
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol
Alcohol (C9-C11) poly (2.5-9) ethoxylates
Alcohol (C6-C17) (secondary) poly (3-6) ethoxylates
Alcohol (C6-C17) (secondary) poly (7-12) ethoxylates
Alcohol (C12-C16) poly (1-6) ethoxylates
Alcohol (C12-C16) poly (7-19) ethoxylates
Alcohol (C12-C16) poly (20+) ethoxylates
Alcohol (C12-C15) poly (…) ethoxylates
Alcohol polyethoxylates
Alcohol polyethoxylates, secondary
Alcoholic beverages, n.o.s.
Alcohols (C12+), primary, linear
Alcohols (C8-C11), primary, linear and essentially linear
Alcohols (C12-C13), primary, linear and essentially linear
Alcohols (C14-C18), primary, linear and essentially linear
Alcohols (C13+)
Cetyl Alcohol (hexadecanol)
Oleyl Alcohol (octadecenol)
Pentadecanol

Tallow alcohol
Tetradecanol
Tridecanol
Amyl alcohol, primary
n-Amyl alcohol
sec-Amyl alcohol
tert-Amyl alcohol
Behenyl alcohol
Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters
1,4-Butanediol
2-Butoxyethanol (58%)/Hyperbranched polyesteramide (42%) (mixture)
Butyl alcohol (all isomers)[1]
Butyl alcohol (iso-, n-, sec-, tert-)
Butylene glycol
Cetyl/Stearyl alcohol
Choline chloride solutions
Crude isopropanol
Cyclohexanol
Decyl alcohol (all isomers)[1]
Decyl/Dodecyl/Tetradecyl alcohol mixture
Diacetone alcohol[1]
Dibutyl carbinol
Diethyl hexanol
Diisobutyl carbinol
2,2-Dimethylpropane-1,3-diol (molten or solution)
Dodecanol (all isomers)
Dodecyl alcohol (all isomers)
Ethoxylated alcohols , C11-C15
2-Ethylhexanol
Ethyl alcohol[1]
Ethyl butanol
Ethylene chlorohydrin

Ethylene cyanohydrin
Ethylene glycol[1]
Furfuryl alcohol[1]
Glycerine[1]
Glycerine (83%)/Dioxanedimethanol (17%) mixture
Glycerol
Glycerol monooleate
Glycol mixture, crude
Heptanol (all isomers)
Hexadecanol (cetyl alcohol)
Hexaethylene glycol
Hexamethylene glycol
Hexanol
Hexylene glycol
Isoamyl alcohol
Isobutyl alcohol
Isopropyl alcohol
Methacrylic acid - Alkoxypoly(alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)
3-Methoxy-1-butanol
Methyl alcohol[1]
Methyl amyl alcohol
alpha-Methylbenzyl alcohol with Acetophenone (15% or less)
Methyl butanol
Methyl butenol
Methyl 3- (3,5 di-tert-butyl-4-hydroxyphenyl) propionate crude melt
Methylbutynol
Methylcyclohexanemethanol (crude)
2-Methyl-2-hydroxy-3-butyne
Methyl isobutyl carbinol
3-Methyl-3-methoxybutanol
2-Methyl-1,3-propanediol
Molasses
Nonyl alcohol (all isomers)[1]
1-Octadecanol

Octadecenol (oleyl alcohol)
Octanol (all isomers)[1]
Octyl alcohol[1]
Pentacosa(oxypropane-2,3-diyl)s
Pentaethylene glycol
Polyalkylene oxide polyol
Polybutadiene, hydroxyl terminated
Polyglycerine/Sodium salts solution (containing less than 3% Sodium hydroxide)[1]
Polyglycerol
Polyolefin amide alkeneamine polyol
n-Propyl alcohol[1]
Propylene glycol[1]
Rum
Sorbitol solution
Stearyl alcohol
Tallow alcohol
Tallow fatty alcohol(C13+)
Trimethyl nonanol
Trimethylol propane polyethoxylated
Undecanol
Undecyl alcohol
Wine
21. PHENOLS, CRESOLS
Alkyl (C4-C9) phenols
Alkylated (C4-C9) hindered phenols
Benzyl alcohol
Carbolic oil
Creosote[1]
Creosote (coal tar)
Creosote (wood tar)
Cresols (all isomers)
Cresols with 5% or more Phenol
Cresols with less than 5% Phenol
Cresylic acid
Cresylic acid, dephenolized
Cresylic acid tar

Cresylic acid with 5% or more phenol
Dibutylphenols
Di-tert-butylphenol
2,4-Di-tert-butylphenol
2,6-Di-tert-butylphenol
2,4-Dichlorophenol
Dodecyl phenol
o-Ethyl phenol
Long-chain alkylphenate/Phenol sulfide mixture
Methylene bridged isobutylenated phenols
Nonyl phenol
Nonylphenol (48-62%) / Phenol (42-48%)/ Dinonylphenol (1-10%) mixture
Octyl phenol
Phenol
Tertiary butylphenols
Xylenols
22. CAPROLACTAM SOLUTIONS
Caprolactam solution
epsilon-Caprolactam (molten or aqueous solutions)
23-29. UNASSIGNED
30. OLEFINS
Acrylic acid/ethenesulfonic acid copolymer with phosphonate groups, sodium salt solution
Amylene
tert-Amylenes
Aryl polyolefin (C11-C50)
Butadiene (all isomers)
Butadiene/Butylene mixtures (containing Acetylenes)
Butene oligomer
Butene
Butylenes (all isomers)
1,5,9-Cyclododecatriene
Cyclopentadiene/Styrene/Benzene mixture
1,3-Cyclopentadiene dimer (molten)

Cyclopentene
Decene
Dicyclopentadiene, Resin Grade, 81-89%
Dicyclopentadiene
Diisobutylene
Dipentene
Dodecene (all isomers)
Ethylene
Ethylidene norbornene[1]
Heptene (all isomers)
Hexene (all isomers)
Isoprene (all isomers)
Isoprene (part refined)
Isoprene concentrate (Shell)
Latex, ammonia (1% or less)- inhibited
d-Limonene
Methyl acetylene/Propadiene mixture
Methyl butenes
Methylcyclopentadiene dimer
4-Methyl-1-pentene
2-Methyl-1-pentene
alpha-Methylstyrene
Mixed C4 Cargoes
Myrcene
Nonene (all isomers)
1-Octadecene
Octene (all isomers)
Olefin-Alkyl ester copolymer (molecular weight 2000+)
Olefin mixture (C7-C9) C8 rich, stabilized
Olefin mixtures (C5-C7)
Olefin mixtures (C5-C15)
Olefins (C13+, all isomers)
alpha-Olefins (C6-C18) mixtures
1,3-Pentadiene
1,3-Pentadiene (greater than 50%), Cyclopentene and isomers, mixtures
Pentene (all isomers)
PIB

alpha-Pinene
beta-Pinene
Piperylene concentrate
Poly(4+)isobutylene
Polyolefin in mineral oil
Poly(5+)propylene
Propylene
Propylene-butylene copolymer
Propylene dimer
Propylene tetramer
Propylene trimer
Propylene/Propane/MAPP gas mixture
Styrene monomer
Tetradecene
Tridecene
Triisobutylene
Tripropylene
Turpentine
Undecene
1-Undecene
31. PARAFFINS
Alkanes (C10-C26), linear and branched (flash point > 60 °C)
Alkanes (C6-C9)
n-Alkanes (C10+) (all isomers)
iso-& cyclo-Alkanes (C10-C11)
iso-& cyclo-Alkanes (C12+)
Butane (all isomers)
Butane/Propane mixture
Cycloheptane
Cyclohexane
Cyclopentane
Decane (all isomers)
Dodecane (all isomers)
Ethane
Ethyl cyclohexane
Ethylene-Propylene copolymer (in liquid mixtures)
Heptadecane (all isomers)

Heptane (all isomers)
Hexane[1] (all isomers)
Hydroxy terminated polybutadiene
iso-Propyl cyclohexane
Isopropylcyclohexane
Liquefied Natural Gas
Methane
Methylcyclohexane
2-Methyl pentane
Nonane (all isomers)
Octane (all isomers)
Paraffin wax
n-Paraffins (C10-C20)
Pentane (all isomers)
Polyalpha olefins
Propane
Tridecane (all isomers)
Undecane (all isomers)
32. AROMATIC HYDROCARBONS
Alkyl acrylate-Vinyl pyridine copolymer in Toluene
Alkyl (C3-C4) benzenes
Butylbenzenes
Cumene
Propylbenzene
Alkyl (C5-C8) benzenes
Amylbenzenes
Heptylbenzenes
Hexylbenzenes
Octylbenzenes
Alkyl (C9+) benzenes
Decylbenzenes
Dodecylbenzenes
Nonylbezenes
Tetradecylbenzenes
Tetrapropylbenzenes
Tridecylbenzenes
Undecylbenzenes

Alkylbenzene mixtures (containing at least 50% of Toluene)
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12-C17)
Alkyl toluene
Alkyl (C18+) toluenes
Benzene
Benzene and mixtures having 10% Benzene or more
Benzene hydrocarbon mixtures (containing Acetylenes) (having 10% Benzene or more)
Benzene/Toluene/Xylene mixtures (having 10% Benzene or more)
Butylbenzene (all isomers)
Butyl phenol, Formaldehyde resin in Xylene
Butyl toluene
C9 Resinfeed (DSM)[1]
p-Cymene
Detergent alkylate
Dialkyl (C10-C14) benzenes
Diethylbenzene
Diisopropylnaphthalene
Diisopropylbenzene (all isomers)
Dimethylbenzene
Diphenyl
Dodecyl xylene
Ethylbenzene
Ethyl toluene
Gasolines: Pyrolysis (containing Benzene)
1-Hexadecylnaphthalene/1,4-bis(Hexadecyl)naphthalene mixture
1-n-Hexadecylnaphthalene (90%)/1,4-di-n-(Hexadecyl)naphthalene (10%)
Hexylbenzenes
Isopropylbenzenes
Methyl naphthalene (molten)
Naphthalene (molten)

Naphthalene still residue
Parachlorobenzotrifluoride
1-Phenyl-1-xylyl ethane
Poly(2+)cyclic aromatics
Polyolefinamine in alkyl(C2-C4)benzenes
Polyolefinamine in aromatic solvent
Propylbenzenes (all isomers)
Pseudocumene
Pyrolysis gasoline (containing Benzene)
Tetrahydronaphthalene
Tetramethylbenzene (all isomers)
1,2,3,5-Tetramethylbenzene
Toluene
Triethylbenzene
Trimethylbenzene (all isomers)
Xylenes
Xylenes/Ethylbenzene (10% or more) mixture
33. MISCELLANEOUS HYDROCARBON MIXTURES
Alachlor technical (90% or more)
Alkylbenzene sulfonic acid, sodium salt solution
Alkyl dithiothiadiazole (C6-C24)
Alkyl (C18-C28) toluenesulfonic acid, Calcium salts, low overbase
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, high overbase
Anthracene oil (Coal tar fraction)
Asphalt
Asphalt blending stocks, roofers flux
Asphalt blending stocks, straight run residue
Asphalt emulsion
Asphalt, kerosene, and other components
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95-120°C)

Bio-fuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flash point >60°C (>25% but < 99% by volume)
Bio-fuel blends of Diesel/gas oil and Alkanes (C10-C26), linear and branched with a flash point ≤ 60°C (>25% but < 99% by volume)
Calcium sulfonate/Calcium carbonate/Hydrocarbon solvent mixture
Coal tar
Coal tar crude bases
Coal tar distillate
Coal tar pitch (molten)
Coal tar, high temperature
Decahydronaphthalene
Diphenyl/Diphenyl ether mixture
Distillates, flashed feed stocks
Distillates, straight run
Drilling mud (low toxicity) (if flammable or combustible)
Gas oil, cracked
Gasoline blending stock, alkylates
Gasoline blending stock, reformates
Gasolines:
Automotive (not over 4.23 grams lead per gal.)
Aviation (containing not over 4.86 grams lead per gal.)
Casinghead (natural)
Polymer
Straight run
Jet fuels:
JP-4
JP-5
JP-8
Kerosene
Mineral spirits
Naphtha:
Aromatic

Coal tar naphtha solvent
Heavy
Paraffinic
Petroleum
Solvent
Stoddard solvent
Varnish Makers' and Painters'
Oil, fuel:
No. 1
No. 1-D
No. 2
No. 2-D
No. 4
No. 5
No. 6
Oil, misc:
Aliphatic
Aromatic
Clarified
Coal
Crude
Diesel
Gas, cracked
Gas, high pour
Gas, low pour
Gas, low sulfur
Heartcut distillate
Linseed
Lubricating
Mineral
Mineral seal
Motor
Neatsfoot
Penetrating
Pine
Residual
Resin, distilled
Road
Rosin

Spindle
Transformer
Turbine
Vacuum gas oil
ORIMULSION
Oxyalkylated alkyl phenol formaldehyde
Petrolatum
Petroleum wax
Polybutene
Polyolefin (molecular weight 300+)
Polyolefin amide alkeneamine (C17+)
Polyolefin amide alkeneamine (C28+),
Polyolefin amide alkeneamine borate (C28-C250)
Polyolefin amide alkeneamine in mineral oil
Polyolefinamine (C28-C250)
Sulfohydrocarbon (C3-C88)
Sulfurized fat (C14-C20)
Sulfurized polyolefinamide alkene(C28-C250) amine
Turpentine substitute
White spirit
White spirit (low (15-20%) aromatic)
34. ESTERS
Alkane (C14-C17) sulfonic acid, sodium salt solutions
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer)
Alkyl (C8+) amine, Alkenyl (C12+) acid ester mixture
Alkyl dithiocarbamate (C19-C35)
Alkyl ester copolymer (C4-C20)
Alkyl ester copolymer in mineral oil
Alkyl phenol sulfide (C8-C40)
Alkyl (C8-C40) phenol sulfide
Alkyl phthalates
Alkyl (C10-C20), saturated and unsaturated) phosphite

Alkyl (C7-C9) nitrates[1]
Alkyl sulfonic acid ester of phenol
Alkyl (C18-C28) toluenesulfonic acid, Calcium salts, borated
Amyl acid phosphate
Amyl acetate (all isomers)
Animal and Fish oils, n.o.s.
Cod liver oil
Lanolin
Neatsfoot oil
Pilchard oil
Sperm oil
Animal and Fish acid oils and distillates, n.o.s.
Animal acid oil
Fish acid oil
Lard acid oil
Mixed acid oil
Mixed general acid oil
Mixed hard acid oil
Mixed soft acid oil
Barium long-chain alkaryl (C11-C50) sulfonate
Barium long-chain alkyl (C8-C14) phenate sulfide
Benzenetricarboxylic acid, trioctyl ester
Benzyl acetate
Bio-fuel blends of Diesel/gas oil and FAME (>25% but <99% by volume)
Bio-fuel blends of Diesel/gas oil and vegetable oil (>25% but <99% by volume)
Bis (2-ethylhexyl) terephthalate
Boronated calcium sulfonate
Butyl acetate (all isomers)
Butyl benzyl phthalate
Butyl butyrate (all isomers)
n-Butyl formate
n-Butyl propionate
Butyl stearate

Calcium alkaryl sulfonate (C11-C50)
Calcium alkyl (C10-C28) salicylate
Calcium alkyl salicylate
Calcium alkyl (C9) phenol sulfide, polyolefin phosphorosulfide mixture
Calcium carbonate slurry
Calcium long-chain alkaryl sulfonate (C11-C50)
Calcium long-chain alkyl (C8-C40) phenate
Calcium long-chain alkyl (C5-C10) phenate
Calcium long-chain alkyl (C5-C20) phenate
Calcium long-chain alkyl (C11-C40) phenate
Calcium long-chain alkyl phenate sulfide (C8-C40)
Calcium long-chain alkyl (C18-C28) salicylate
Calcium long-chain alkyl salicylate (C13+)
Calcium nitrate solutions (50% or less)
Calcium nitrate/Magnesium nitrate/ Potassium chloride solution
Calcium salts of fatty acids
Calcium stearate
Canola oil
Cobalt naphthenate in solvent naphtha
Copper salt of long-chain (C17+) alkanoic acid
Copper salt of long-chain (C3-C16) fatty acid
Cyclohexyl acetate
Decyl acetate
Dialkyl (C9-C10) phthalates
Dialkyl thiophosphates sodium salts solution
Dialkyl (C7-C13) phthalates
Di-(2-ethylhexyl) phthalate
Diheptyl phthalate

Dihexyl phthalate
Diisooctyl phthalate
Dioctyl phthalate
Diisodecyl phthalate
Diisononyl phthalate
Dinonyl phthalate
Ditridecyl phthalate
Diundecyl phthalate
Dibutyl hydrogen phosphonate
Dibutyl phthalate
Dibutyl terephthalate
Di-(2-ethylhexyl) adipate
Di-(2-ethylhexyl) terephthalate
Diethylene glycol dibenzoate
Diethylene glycol phthalate
Diethyl phthalate
Diethyl sulfate
Di-n-hexyl adipate
Diisobutyl phthalate
Diisononyl adipate
Dimethyl adipate
Dimethylcyclicsiloxane hydrolyzate
Dimethyl glutarate
Dimethyl hydrogen phosphite[1]
Dimethyl naphthalene sulfonic acid, sodium salt solution[1]
Dimethyl phthalate
Dimethylpolysiloxane
Dimethyl succinate
Dipropylene glycol dibenzoate
Dithiocarbamate ester (C7-C35)
Ditridecyl adipate
2-Dodecenylsuccinic acid, dipotassium salt solution
2-Ethoxyethyl acetate
Ethyl acetate
Ethyl acetoacetate
Ethyl butyrate
2-Ethyl-2-(2,4-dichlorophenoxy) acetate

2-Ethyl-2-(2,4-dichlorophenoxy) propionate
S-Ethyl dipropylthiocarbamate
Ethylene carbonate
Ethylene glycol acetate
Ethylene glycol butyl ether acetate
Ethylene glycol diacetate
Ethylene glycol ethyl ether acetate
Ethylene glycol methyl ether acetate
Ethyl-3-ethoxypropionate
Ethyl hexyl phthalate
Ethyl hexyl tallate
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol (C8-C10) ester
Ethyl lactate
Ethyl propionate
Fatty acid methyl esters
Fatty acids, (C8-C10)
Fatty acids, (C12+)
Fatty acids (saturated, C13+)
Fatty acids (saturated, C14+)
Fatty acids, (C16+)
Fatty acids, essentially linear (C6–C18) 2-ethylhexyl ester
Glyceryl triacetate
Glycidyl ester of C10 trialkyl acetic acid
Glycidyl ester of tertiary carboxylic acid
Glycidyl ester of tridecyl acetic acid
Glycidyl ester of Versatic acid
Glycol diacetate
Glycol triacetate
Heptyl acetate
Herbicide (C15-H22-NO2-Cl)
Hexyl acetate
Hog grease
Isobutyl formate
Isopropyl acetate
Lauric acid
Lauric acid methyl ester/Myristic acid methyl ester mixture

Lecithin
Magnesium long-chain alkaryl sulfonate (C11-C50)
Magnesium long-chain alkyl phenate sulfide (C8-C20)
Magnesium long-chain alkyl salicylate (C11+)
Magnesium nonyl phenol sulfide
Magnesium sulfonate
3-Methoxybutyl acetate
1-Methoxy-2-propyl acetate
Methyl acetate
Methyl acetoacetate
Methyl amyl acetate
Methyl butyrate
Methyl formate
3-Methyl-3-methoxybutyl acetate
Methyl salicylate
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide
Metolachlor
Naphthalene sulfonic acid, sodium salt solution
Nitrilotriacetic acid, trisodium salt solution
Nonyl acetate
Nonyl phenol sulfide (90% or less) solution
Octamethylcyclotetrasiloxane
n-Octyl acetate
Octyl decyl adipate
Octyl nitrate
Octyl phthalate
Oil, edible:
Beechnut
Castor
Cocoa butter
Coconut
Cod liver
Corn
Cotton seed

Fish
Grape seed
Groundnut
Hazelnut
Illipe
Lard
Maize
Mango kernel
Nutmeg butter
Olive
Palm
Palm kernel
Palm kernel olein
Palm kernel stearin
Palm mid fraction
Palm olein
Palm stearin
Peanut
Poppy
Poppy Seed
Raisin seed
Rapeseed
Rapeseed, (low erucic acid containing less than 4% free fatty acids)
Rice bran
Safflower
Salad
Sesame
Shea
Soyabean
Sunflower
Sunflower seed
Tucum
Vegetable
Walnut
Oil, misc:
Acid mixture from soybean, corn (maize) and sunflower oil refining

Animal
Camelina
Cashew nut shell oil (untreated)
Coconut fatty acid
Coconut, fatty acid methyl ester
Cotton seed oil, fatty acid
Lanolin
Oiticica
Palm acid
Palm fatty acid distillate
Palm oil, fatty acid methyl ester
Palm kernel acid
Palm kernel fatty acid distillate
Palm, non-edible industrial grade
Perilla
Pilchard
Rapeseed fatty acid methyl esters
Seal
Soapstock
Soyabean (epoxidized)
Soyabean fatty acid methyl ester
Tall
Tall, crude
Tall, distilled
Tall, fatty acid
Tall, fatty acid (resin acids less than 20%)
Tall pitch
Tung
n-Pentyl propionate
Phosphate esters
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate
Diethylene glycol butyl ether acetate
Diethylene glycol ethyl ether acetate
Diethylene glycol methyl ether acetate
Polycarboxylic ester (C9+)
Polydimethylsiloxane
Polyferric sulfate solution

Polymerized esters
Polymethylsiloxane
Polyolefin aminoester salts (MW 2000+)
Polyolefin ester (C28-C250)
Polyolefin phosphorosulfide, barium derivative (C28-C250)
Poly(20)oxyethylene sorbitan monooleate
Polysiloxane
Polysiloxane/White spirit, low (15-20%) aromatic
Potassium formate solutions
Potassium oleate
Potassium salt of polyolefin acid
n-Propyl acetate
Propylene carbonate
Propylene glycol methyl ether acetate
Siloxanes
Sodium acetate solutions
Sodium acetate, Glycol, Water mixture (not containing Sodium hydroxide)
Sodium alkyl (C14-C17) sulfonates (60-65% solution)
Sodium aluminosilicate slurry
Sodium benzoate
Sodium bicarbonate solution (less than 10%)
Sodium dimethyl naphthalene sulfonate solution[1]
Sodium long-chain alkyl salicylate (C13+)
Sodium naphthalene sulfonate solution
Sodium petroleum sulfonate
Sodium sulfate solution
Stearic acid
Tallow
Tallow fatty acid
Triarylphosphate
Tributyl phosphate
Tricresyl phosphate (containing 1% or more ortho-isomer)

Tricresyl phosphate (containing less than 1% ortho-isomer)
Tridecanoic acid
Tridecyl acetate
Triethylene glycol di-(2-ethylbutyrate)
Triethylene glycol dibenzoate
Triethyl phosphate
Triethyl phosphite[1]
Triisooctyl trimellitate[1]
Triisopropylated phenyl phosphates
Trimethyl phosphite[1]
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate
2,2,4-Trimethyl-3-pentanol-1-isobutyrate
Trisodium nitrilotriacetate solution,
Trixylyl phosphate
Trixylenyl phosphate
Vegetable acid oils, n.o.s.
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
Vegetable fatty acid distillates, n.o.s.
Palm kernel fatty acid distillate
Palm oil fatty acid distillate
Tall fatty acid distillate
Tall oil fatty acid distillate
Vegetable oils, n.o.s.
Beechnut oil

Camelina oil
Cashew nut shell
Castor oil
Cocoa butter
Coconut oil
Corn oil
Cotton seed oil
Croton oil
Grape seed oil
Groundnut oil
Hazelnut oil
Illipe oil
Linseed oil
Mango kernel oil
Nutmeg butter
Oiticica oil
Olive oil
Palm kernel oil
Palm kernel olein
Palm kernel stearin
Palm mid fraction
Palm, non-edible industrial grade
Palm oil
Palm olein
Palm stearin
Peanut oil
Peel oil (oranges and lemons)
Perilla oil
Pine oil
Poppy seed oil
Poppy oil
Raisin seed oil
Rapeseed oil
Rapeseed (low erucic acid containing less than 4% free fatty acids)
Rice bran oil
Rosin oil
Safflower oil
Salad oil

Sesame oil
Shea butter
Soyabean oil
Sunflower seed oil
Tall
Tall, crude
Tall, distilled
Tall, pitch
Tucum oil
Tung oil
Walnut oil
Waxes:
Candelilla
Carnauba
Zinc alkaryl dithiophosphate (C7-C16)
Zinc alkyl dithiophosphate (C3-C14)
35. VINYL HALIDES
Vinyl chloride
Vinylidene chloride
36. HALOGENATED HYDROCARBONS
Benzyl chloride
Bromochloromethane
Carbon tetrachloride[1]
Catoxid feedstock[1]
Chlorinated paraffins (C10-C13)
Chlorinated paraffins (C14-C17) (with 50% Chlorine or more, and less than 1% C13 or shorter chains)
Chlorinated paraffins (C14-C17) (with 52% Chlorine)
Chlorinated paraffins (C18+) with any level of chlorine
Chlorobenzene
Chlorodifluoromethane
Chloroform
m-Chlorotoluene
o-Chlorotoluene
p-Chlorotoluene

Chlorotoluenes (mixed isomers)
Dibromomethane
Dichlorobenzene (all isomers)
3,4-Dichloro-1-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,6-Dichlorohexane
Dichloromethane
Dichloropropane
1,1-Dichloropropane
1,2-Dichloropropane
1,3-Dichloropropane
Ethyl chloride
Ethylene dibromide
Ethylene dichloride[1]
Methyl bromide
Methyl chloride
Methylene chloride
Monochlorodifluoromethane
Pentachloroethane
Perchloroethylene
n-Propyl chloride
Sym-trichlorobenzene
Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene (molten)
1,2,4-Trichlorobenzene
1,2,3-Trichlorobenzol
1,1,1-Trichloroethane[1]
1,1,2-Trichloroethane
Trichloroethylene[1]
1,1,2-Trichloro-1,2,2-trifluoroethane
1,2,3-Trichloropropane
37. NITRILES
Acetonitrile
Acetonitrile (low purity grade)
Adiponitrile
Lactonitrile solution (80% or less)
2-Methylglutaronitrile

2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)
Propionitrile
Tallow alkyl nitrile
38. CARBON DISULFIDE
Carbon disulfide
39. SULFOLANE
Sulfolane
40. GLYCOL ETHERS
Alkyl (C7-C11) phenol poly (4-12) ethoxylates
Alkyl (C9-C15) phenyl propoxylate
Diethylene glycol[1]
Diethylene glycol dibutyl ether
Diethylene glycol diethyl ether
Diethylene glycol phenyl ether
Dipropylene glycol
Ethoxy triglycol
2-Ethoxyethanol
Ethoxy triglycol (crude)
Ethylene glycol dibutyl ether
Ethylene glycol n-propyl ether
Ethylene glycol monoalkyl ethers
Ethylene glycol butyl ether
Ethylene glycol ethyl ether
Ethylene glycol isobutyl ether
Ethylene glycol methyl butyl ether
Ethylene glycol tert-butyl ether
Ethylene glycol hexyl ether
Ethylene glycol methyl ether
Ethylene glycol propyl ether
Ethylene glycol isopropyl ether
Ethylene glycol phenyl ether
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture
Glucitol/Glycerol blend propoxylated (containing less than 10% amines)
Glycerol ethoxylated
Glycerol polyalkoxylate

Glycerol propoxylated
Glycerol, propoxylated and ethoxylated
Glycerol/Sucrose blend propoxylated and ethoxylated
alpha-Hydro-omega-hydroxytetradeca (oxytetramethylene)
Methoxy triglycol
Nonyl phenol poly(4+)ethoxylate
Pentaethylene glycol methyl ether
Polyalkylene glycols/Polyalkylene glycol monoalkyl ethers mixtures
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether
Diethylene glycol butyl ether
Diethylene glycol ethyl ether
Diethylene glycol n-hexyl ether
Diethylene glycol propyl ether
Diethylene glycol methyl 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
Polyethylene glycol
Polyethylene glycol dimethyl ether
Poly (ethylene glycol) methylbutenyl ether (MW > 1000)
Polypropylene glycol
Poly(tetramethylene ether) glycols (mw 950-1050)
Polytetramethylene ether glycol
Propylene glycol monoalkyl ether
n-Propoxypropanol
Propylene glycol n-butyl ether
Propylene glycol ethyl ether

Propylene glycol methyl ether
Propylene glycol propyl ether
Propylene glycol phenyl ether
Tetraethylene glycol
Triethylene glycol
Triethylene glycol butyl ether mixture
Triethylene glycol ether mixture
Tripropylene glycol
41. ETHERS
Alcohol (C12-C13, branched and linear) poly (4-8) propoxy sulfates, sodium salt 25-30% solution
Alkaryl polyether (C9-C20)
tert-Amyl methyl ether
n-Butyl ether
Dichloroethyl ether
2,2′-Dichloroisopropyl ether
Diethyl ether
Dimethyl ether
Dimethyl furan
1,4-Dioxane
Diphenyl ether
Diphenyl ether/Biphenyl ether mixture
Diphenyl ether/Diphenyl phenyl ether mixture
Diphenyl oxide
ETBE
Ethyl tert-butyl ether[1]
Ethyl ether
Isopropyl ether
Long-chain alkaryl polyether (C11-C20)
Methyl tert-butyl ether[1]
Methyl tert-pentyl ether
MTBE
Polyether, borated
Polyether (molecular weight 1350+)
Polyether polyols
Poly (oxyalkylene) alkenyl ether (MW>1000)

Polyoxybutylene alcohol
Propyl ether
TAME
Tetrahydrofuran
1,3,5-Trioxane
42. NITROCOMPOUNDS
o-Chloronitrobenzene
Dinitrotoluene (molten)
Nitrobenzene
o-Nitrochlorobenzene
Nitroethane
Nitroethane(80%)/Nitropropane (20%)
Nitroethane/1-Nitropropane (each 15% or more) mixture
Nitrophenol (mixed isomers)
Nitropropane (60%)/Nitroethane (40%) mixture
1-or 2-Nitropropane
o- or p-Nitrotoluenes
43. MISCELLANEOUS WATER SOLUTIONS
Alkyl polyglucoside solution
Alkyl (C8-C10) polyglucoside solution (65% 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)
Alkyl (C12-C14) polyglucoside solution (55% or less)
Aluminum sulfate solution[1]
2-Amino-2-hydroxymethyl-1,3-propanediol solution
Ammonium bisulfite solution (70% or less)[1]

Ammonium chloride solution (less than 25%)
Ammonium lignosulfonate solution
Ammonium nitrate/Urea solution (not containing Ammonia)
Ammonium phosphate/Urea solution
Ammonium polyphosphate solution
Ammonium sulfate solution
Ammonium sulfate solution (20% or less)
Ammonium thiosulfate solution (60% or less)
Apple juice
Calcium bromide/Zinc bromide solution
Calcium chloride solution
Calcium lignosulfonate solutions
Caramel solutions
Cesium formate solution
Clay slurry
Coal slurry
Corn syrup
Dextrose solution
2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution
2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution[1]
Diethanolamine salt of 2,4-Dichlorophenoxyacetic acid solution
Diethylenetriamine pentaacetic acid, pentasodium salt solution
Dodecyl diphenyl ether disulfonate solution
Drilling brines (containing Calcium, Potassium or Sodium salts)
Drilling brines (containing Zinc salts)
Drilling brines, including: Calcium bromide solution, Calcium chloride solution and Sodium chloride solution
Drilling mud (low toxicity) (if non-flammable or non-combustible)

Ethylenediaminetetraacetic acid/ tetrasodium salt solution
Ethylene-Vinyl acetate copolymer (emulsion)
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution[1]
Fish solubles (water based fish meal extracts)
Fructose solution
Fumaric adduct of Rosin, water dispersion
Glucose solution
Hexamethylenediamine adipate (50% in water)
Hexamethylenediamine adipate solution
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution
Kaolin clay solution
Kaolin slurry
Latex, liquid synthetic
Latex: Carboxylated Styrene-Butadiene copolymer; Styrene-Butadiene rubber
Lauryl polyglucose (50% or less)
Lauryl polyglucose
Lignin liquor
Ligninsulfonic acid, magnesium salt solution
Ligninsulfonic acid, sodium salt solution
Liquid Streptomyces solubles
L-Lysine solution (60% or less)
Magnesium nitrate solution (66.7%)
N-Methylglucamine solution (70% or less)
Microsilica slurry
Milk
Naphthenic acid, sodium salt solution
Pentasodium salt of Diethylenetriamine pentaacetic acid solution
Phenol solutions (2% or less)
Polyacrylic acid solution (40% or less)

Potassium chloride solution
Potassium chloride solution (10% or more)
Potassium chloride solution (less than 26%)
Potassium thiosulfate (50% or less)
Rosin soap (disproportionated) solution
Sewage sludge
Silica slurry
Sludge, treated
Sodium bromide solution (less than 50%)
Sodium hydrogen sulfite solution (45% or less)
Sodium lignosulfonate solution
Sodium naphthenate solution
Sodium poly(4+)acrylate solution
Sodium polyacrylate solution[1]
Sodium salt of Ferric hydroxyethylethylenediaminetriacetic acid solution
Sodium silicate solution[1]
Sodium sulfide solution (15% or less)
Sodium sulfite solution (25% or less)
Sodium tartrates/Sodium succinates solution
Sulfonated polyacrylate solution[1]
Tall oil soap (disproportionated) solution
Tetrasodium salt of ethylenediaminetetraacetic acid solution
Titanium dioxide slurry
Triisopropanolamine salt of 2,4-Dichlorophenoxyacetic acid solution,
Trisodium salt of N-(Hydroxyethyl)ethylenediaminetriacetic acid solution
Urea solution
Urea/Ammonium phosphate solution
Urea/Ammonium nitrate solution (containing less than 1% free Ammonia)
Vegetable protein solution (hydrolyzed)

Water
Zinc bromide/Calcium bromide solution

Note:
1. See Appendix I to 46 CFR Part 150 (Exceptions to the Chart).

6. Revise Appendix I to part 150, as amended by the interim rule published on August 16, 2013 (78 FR 50148), effective January 16, 2017, as delayed at 79 FR 68132, November 14, 2014, to read as follows:

Appendix I to Part 150 – Exceptions to the Chart

(a) The binary combinations listed below have been tested as prescribed in Appendix III to part 150 and found not to be dangerously reactive. These combinations are exceptions to Figure 1 of part 150 (Compatibility Chart) and may be stowed in adjacent tanks.

Member of reactive group	Compatible with
Acetone (18)	Diethylenetriamine (7)
Acetone cyanohydrin (0)	Acetic acid (4)
	Acrylates (14)
	Alcohols, Gylcols (20)
	Aldehydes (19)
	Aromatic Hydrocarbon Mixtures (32)
	Carbon Disulfide (38)
	Esters (34)
	Ethers (41)
	Glycol Ethers (40)
	Halogenated Hydrocarbons (36)
	Ketones (18)
	Misc. Hydrocarbon Mixtures (33)
	Nitriles (37)
	Nitrocompounds (42)
	Olefins (30)
	Paraffins (31)
	Phenols, Cresols (21)
	Substituted Allyls (15)
	Sulfolane (39)

	Vinyl Acetate (13)
	Vinyl Halides (35)
Acrylonitrile (15)	Triethanolamine (8)
1,3-Butylene glycol (20)	Morpholine (7)
1,4-Butylene glycol (20)	Ethylamine (7)
	Triethanolamine (8)
gamma-Butyrolactone (0)	N-Methyl-2-pyrrolidone (9)
Caustic potash, 50% or less (5)	Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume) (20)
	Isobutyl alcohol (20)
	Ethyl alcohol (20)
	n-Butyl alcohol (20)
	Ethylene glycol (20)
	Isopropyl alcohol (20)
	Methyl alcohol (20)
	iso-Octyl alcohol (20)
	Propylene glycol (20)
Caustic soda, 50% or less (5)	Acrylonitrile/Styrene copolymer dispersion in Polyether polyol (20)
	Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume) (20)
	iso-Butyl alcohol (20)
	Butyl alcohol (20)
	tert-Butyl alcohol, Methanol mixtures
	Decyl alcohol (20)
	Cetyl alcohol (20)
	Alcohol (C12–C16) poly(1-6)ethoxylates) (20)
	iso-Decyl alcohol (20)
	Diacetone alcohol (20)
	Diethylene glycol (40)
	Dodecyl alcohol (20)
	Ethyl alcohol (20)
	Ethyl alcohol (40%, whiskey) (20)
	Ethylene glycol (20)
	Ethylene glycol, Diethylene glycol mixture (20)
	Ethyl hexanol (Octyl alcohol) (20)
	Methyl alcohol (20)

	Nonyl alcohol (20)
	iso-Nonyl alcohol (20)
	Propyl alcohol (20)
	iso-Propyl alcohol (20)
	Propylene glycol (20)
	Sodium chlorate solution (0)
	iso-Tridecanol (20)
Dimethyl disulfide (0)	Acrylates (14)
	Alcohols, Glycols (20)
	Esters (34)
	Halogenated Hydrocarbons (36)
	Ketones (18)
	Methyl tert-butyl ether (41)
	Aromatic Hydrocarbon Mixtures (32)
	Olefins (30)
	Organic Acids (4)
	Organic Anhydrides (11)
	Paraffins (31)
	Phenols, Cresols (21)
Diphenylmethane diisocyanate (12)	2,2-Dimethylpropane-1,3-diol (20)
	Polypropylene glycol (40)
tert-Dodecanethiol (0)	Acetone (18)
	Acrylonitrile (15)
	n-Butyl acrylate (14)
	Caustic soda solution (50%) (5)
	Chloroform (36)
	iso-Decyl alcohol (20)
	Diglycidyl ether of Bisphenol A (16)
	Dichloromethane (36)
	Diisodecyl phthalate (34)
	Dipropylene glycol (40)
	Epichlorohydrin (17)
	Ethyl acrylate (14)
	Ethylene glycol monoalkyl ethers (40)
	Methanol (20)
	Methyl ethyl ketone (18)

	Methyl isobutyl ketone (18)
	Naphtha, Solvent (33)
	iso-Nonyl alcohol (20)
	Perchloroethylene (36)
	Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether (40)
	iso-Propyl alcohol (20)
	iso-Propylamine solution (70%) (7)
	Propylene glycol methyl ether (40)
	Propylene glycol methyl ether acetate (34)
	Tall oil, crude (34)
	Tall oil fatty acid (resin acids less than 20%) (34)
	Toluene (32)
	Toluene diisocyanate (TDI) (12)
	White mineral oil (Carnation oil) (33)
Dodecyl and Tetradecylamine mixture (7)	Tall oil, fatty acid (34)
Ethylenediamine (7)	Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume) (20)
	Butyl alcohol (20)
	tert-Butyl alcohol (20)
	Butylene glycol (20)
	Creosote (21)
	Diethylene glycol (40)
	Ethyl alcohol (20)
	Ethylene glycol (20)
	Ethyl hexanol (20)
	Fatty alcohols (C12–C14)
	Glycerine (20)
	Isononyl alcohol (20)
	Isophorone (18)
	Methyl butyl ketone (18)
	Methyl iso-butyl ketone (18)
	Methyl ethyl ketone (18)
	Propyl alcohol (20)
	Propylene glycol (20)
Lactic acid (0)	Acetic acid (4)
	Benzene (32)

	Ethanol (20)
	Polypropylene glycol (40)
	Vinyl acetate (13)
Oleum (0)	Hexane (31)
	Dichloromethane (36)
	Perchloroethylene (36)
1,2-Propylene glycol (20)	Diethylenetriamine (7)
	Polyethylene polyamines (7)
	Triethylenetetramine (7)
Sodium cresylate as Cresylate spent caustic (5)	Methyl alcohol (20)
Sodium dichromate solution (70% or less) (0)	Acetone (18)
	n-Butyl alcohol (20)
	Ethyl Acetate (34)
	1-Hexene (30)
	Methyl alcohol (20)
	Octene (all isomers) (30)
	Phosphoric Acid (1)
Sodium hydrogen sulfide solution (5)	iso-Propyl alcohol (20)
Sodium hydrosulfide solution (5)	Methyl alcohol (20)
	Iso-Propyl alcohol (20)
Sodium Methylate 21-30% in methanol (0)	1,2-Dichloropropane (36)
	Chlorobenzene (36)
	Cyclohexanone (18)
	Cyclohexanone, Cyclohexanol mixtures (18)
	Diethanolamine (8)
	Diisononyl phthalate (34)
	Dimethylformamide (10)
	Ethyl alcohol (20)
	Ethylene glycol (20)
	Furfuryl alcohol (20)
	Heptene (all isomers) (30)

	Isobutyl alcohol (20)
	Isopropyl alcohol (20)
	Lubricating oil (33)
	Methyl ethyl ketone (18)
	Nonene (all isomers) (30)
	Nonyl alcohol (all isomers) (20)
	Octene (all isomers) (30)
	o-Toluidine (9)
	Perchloroethylene (36)
	Polyisobutenamine in aliphatic (C10-C14) solvent (7)
	Xylene (32)
Sulfuric acid (2)	Coconut oil (34)
	Coconut oil acid (34)
	Palm oil (34)
	Soyabean oil (34)
	Tallow (34)
Sulfuric acid, 98% or less (2)	Choice white grease tallow (34)
Urea/Ammonium Nitrate solution (containing less than 1% free Ammonia) (43)	Magnesium chloride solutions (0)

(b) The binary combinations listed below have been determined to be dangerously reactive, based on either data obtained in the literature or on laboratory testing which has been carried out in accordance with procedures prescribed in Appendix III. These combinations are exceptions to the Compatibility Chart (Figure 1) and may not be stowed in adjacent tanks.

Acetone cyanohydrin (0) is not compatible with Groups 1-12, 16, 17 and 22.

Acrolein (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

Acrylic acid (4) is not compatible with Group 9, Aromatic Amines.

Acrylonitrile (15) is not compatible with Group 5, Caustics.

Alkylbenzene sulfonic acid (less than 4%) (0) is not compatible with Groups 1-3, 5-9, 15, 16, 18, 19, 30, 34, 37, and strong oxidizers.

Allyl alcohol (15) is not compatible with Group 12, Isocyanates.

Alkyl (C7-C9) nitrates (34) is not compatible with Group 1, Non-oxidizing Mineral Acids.

Aluminum sulfate solution (43) is not compatible with Groups 5-11.

Ammonium bisulfite solution (70% or less) (43) is not compatible with Groups 1, 3, 4, and 5.

Benzenesulfonyl chloride (0) is not compatible with Groups 5-7, and 43.

1, 4-Butylene glycol (20) is not compatible with Caustic soda solution, 50% or less (5).

gamma-Butyrolactone (0) is not compatible with Groups 1-9.

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.

Caustic soda solution, 50% or less (5) is not compatible with 1, 4-Butylene glycol (20).

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

Crotonaldehyde (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

Cyclohexanone/Cyclohexanol mixture (18) is not compatible with Group 12, Isocyanates.

2, 4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution (43) is not compatible with Group 3, Nitric Acid.

2, 4-Dichlorophenoxyacetic acid, Dimethylamine salt solution (0) is not compatible with Groups 1-5, 11, 12, and 16.

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

Dimethyl hydrogen phosphite (34) is not compatible with Groups 1 and 4.

Dimethyl naphthalene sulfonic acid, sodium salt solution (34) is not compatible with Group 12, Formaldehyde, and strong oxidizing agents.

Dodecylbenzenesulfonic acid (0) is not compatible with oxidizing agents and Groups 1, 2, 3, 5, 6, 7, 8, 9, 15, 16, 18, 19, 30, 34, and 37.

Ethylenediamine (7) and Ethyleneamine EA 1302 (7) are not compatible with either Ethylene dichloride (36) or 1, 2, 3-Trichloropropane (36).

Ethylene dichloride (36) is not compatible with Ethylenediamine (7) or Ethyleneamine EA 1302 (7).

Ethylidene norbornene (30) is not compatible with Groups 1-3 and 5-8.

2-Ethyl-3-propylacrolein (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

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

Fatty acids, essentially linear (C6–C18) 2-ethylhexyl ester (34) is not compatible with Group 3, Nitric acid.

Ferric hydroxyethylethylenediamine triacetic acid, Triodium salt solution (43) is not compatible with Group 3, Nitric acid.

Fish oil (34) is not compatible with Sulfuric acid (2).

Formaldehyde (over 50%) in Methyl alcohol (over 30%) (19) is not compatible with Group 12, Isocyanates.

Formic acid (4) is not compatible with Furfuryl alcohol (20).

Furfuryl alcohol (20) is not compatible with Group 1, Non-Oxidizing Mineral Acids and Formic acid (4).

1,6-Hexanediol distillation overheads (4) is not compatible with Group 3, Nitric acid, and Group 9, Aromatic amines.

2-Hydroxyethyl acrylate (14) is not compatible with Group 5, 6, or 12.

Isophorone (18) is not compatible with Group 8, Alkanolamines.

Lactic acid (0) is not compatible with Caustic soda solution.

Magnesium chloride solution (0) is not compatible with Groups 2, 3, 5, 6 and 12.

Mesityl oxide (18) is not compatible with Group 8, Alkanolamines.

Methacrylonitrile (15) is not compatible with Group 5 (Caustics).

Methyl tert-butyl ether (41) is not compatible with Group 1, Non-oxidizing Mineral Acids.

Nitroethane, 1-Nitropropane (each 15% or more) mixture (42) is not compatible with Group 7, Aliphatic amines, Group 8, Alkanol amines, and Group 9, Aromatic amines.

Nitropropane (20%), nitroethane (80%) mixture (42) is not compatible with Group 7 (Aliphatic amines), Group 8 (Alkanol amines), and Group 9 (Aromatic amines).

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

o-Nitrophenol (0) is not compatible with Groups 2, 3, and 5-10.

Oleum (0) is not compatible with Sulfuric acid (2) and 1, 1, 1-Trichloroethane (36).

Phthalate based polyester polyol (0) is not compatible with Groups 2, 3, 5, 7 and 12.

Polyglycerine, Sodium salts solution (20) is not compatible with Groups 1, 4, 11, 16, 17, 19, 21 and 22.

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.

Sodium acetate, Glycol, Water mixture (1% or less Sodium hydroxide) (5) is not compatible with Group 12 (Isocyanates).

Sodium chlorate solution (50% or less) (0) is not compatible with Groups 1-3, 5, 7, 8, 10, 12, 13, 17 and 20.

Sodium dichromate solution (70% or less) (0) is not compatible with Groups 1-3, 5, 7, 8, 10, 12, 13, 17 and 20.

Sodium dimethyl naphthalene sulfonate solution (34) is not compatible with Group 12, Formaldehyde and strong oxidizing agents.

Sodium hydrogen sulfide (6% or less)/Sodium carbonate solution (3% or less) (0) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium hydrosulfide solution (45% or less) (5) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).
Sodium hydrosulfide, Ammonium sulfide solution (5) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium polyacrylate solution (43) is not compatible with Group 3, Nitric Acid.

Sodium silicate solution (43) is not compatible with Group 3, Nitric Acid.

Sodium sulfide, hydrosulfide solution (0) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium thiocyanate (56% or less) (0) is not compatible with Groups 1-4.

Sulfonated polyacrylate solution (43) is not compatible with Group 5 (Caustics).
Sulfuric acid (2) is not compatible with Fish oil (34), or Oleum (0).

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

Tallow fatty acid (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.
1, 1, 1-Trichloroethane (36) is not compatible with Oleum (0).

Trichloroethylene (36) is not compatible with Group 5, Caustics.

Triethylenetetramine (7) is not compatible with Carbon tetrachloride, or 1, 2, 3-Trichloropropane, both Group 36, Halogenated hydrocarbons.

Triethyl phosphite (34) is not compatible with Group 1 (non-oxidizing mineral acids) and Group 4 (Organic acids).

Trimethyl phosphite (34) is not compatible with Group 1 (non-oxidizing mineral acids) and Group 4 (Organic acids).

1, 3, 5-Trioxane (41) is not compatible with Group 1 (non-oxidizing mineral acids) and Group 4 (Organic acids).

Vinyl neodecanoate (13) is not compatible with Group 5, Caustics.

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

7. Revise the authority citation for part 153 to read as follows:

Authority: 46 U.S.C. 2103, 3703; Department of Homeland Security Delegation No. 0170.1, para. II (92.a), (92.b). 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).

8. Revise Table 2 to part 153, as amended by the interim rule published on August 16, 2013 (78 FR 50148), effective January 16, 2017, as delayed at 79 FR 68132, November 14, 2014, to read as follows:

Table 2 to Part 153—Cargoes Not Regulated under Subchapters D Or O of This Chapter When Carried in Bulk on Non-Oceangoing Barges

The cargoes listed in this table are not regulated under subchapter D or O of this title when carried in bulk on non-oceangoing barges. Category X, Y, or Z noxious liquid substance (NLS) cargo, as defined in Annex II of MARPOL 73/78, listed in this table, or any mixture containing one or more of these cargoes, must be carried under this subchapter if carried in bulk on an oceangoing ship.

Cargoes	**Pollution Category**
Acrylic acid / ethenesulfonic acid copolymer with phosphonate groups, sodium salt solution	**Z**
Aluminum sulfate solution	**Y**
2-Amino-2-hydroxymethyl-1,3-propanediol solution	#
Ammonium hydrogen phosphate solution	Z
Ammonium lignosulfonate solutions, *see also* Lignin liquor	Z
Ammonium nitrate solution (45% or less)	#
Ammonium phosphate, urea solution, *see also* Urea, Ammonium phosphate solution	#
Ammonium polyphosphate solution	Z
Ammonium sulfate solution	Z
Ammonium thiosulfate solution (60% or less)	Z
Apple juice	OS

Calcium bromide solution	Z
Calcium carbonate slurry	OS
Calcium chloride solution	Z
Calcium hydroxide slurry	Z
Calcium lignosulfonate solution, *see also* Lignin liquor	Z
Calcium nitrate solutions (50% or less)	**Z**
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	Z
Caramel solutions	#
Chlorinated paraffins (C14–C17) (with 50% Chlorine or more, and less than 1% C13 or shorter chains)	**X**
Chlorinated paraffins (C14–C17) (with 52% Chlorine)	#
2-Chloro-4-ethylamino-6-isopropylamino-5-triazine solution	#
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	**Y**
Choline chloride solutions	Z
Clay slurry	OS
Coal slurry	OS
Dextrose solution, see Glucose solution	……
Diethylenetriamine pentaacetic acid, pentasodium salt solution	Z
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	#
Dodecenylsuccinic acid, dipotassium salt solution	#
Drilling brine (containing Calcium, Potassium ,or Sodium salts) (*see also* Potassium chloride solution (10% or more))	#
Drilling brines, including: Calcium bromide solution, Calcium chloride solution and Sodium chloride solution (if non-flammable and non-combustible)	Z
Drilling brines (containing Zinc salts)	X
Drilling mud (low toxicity) (if non-flammable and non-combustible)	#
Ethylene-Vinyl acetate copolymer (emulsion)	Y
Ferric hydroxyethylethylenediamine triacetic acid, trisodium salt solution	#
Fish solubles (water based fish meal extracts)	#
Fructose solution	#
Glucose solution	OS
Glycine, Sodium salt solution	Z
Glyphosate solution (not containing surfactant)	**Y**
Hexamethylenediamine adipate solution	#
Hexamethylenediamine adipate (50% in water)	Z
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	Y
Kaolin clay solution	#
Kaolin slurry	OS
Kraft pulping liquor (free alkali content, 1% or less) *including: Black, Green, or White liquor*	#

Lignin liquor (free alkali content, 1% or less)	Z
including:	
Ammonium lignosulfonate solutions	Z
Calcium lignosulfonate solutions	Z
Sodium lignosulfonate solution	Z
Ligninsulfonic acid, Sodium salt solution	Z
Magnesium chloride solution	Z
Magnesium hydroxide slurry	Z
Magnesium sulfonate solution	#
Maltitol solution	**OS**
Microsillica slurry	**OS**
Milk	#
Molasses	OS
Molasses residue (from fermentation)	#
Naphthalenesulfonic acid-Formaldehyde copolymer, sodium salt solution	Z
Naphthenic acid, sodium salt solution	#
Nitrilotriacetic acid, trisodium salt solution	**Y**
Noxious liquid, NF, (1) n.o.s. (“trade name” contains “principle components”) ST 1, Cat X (if non-flammable and non-combustible)	X
Noxious liquid, NF, (3) n.o.s. (“trade name” contains “principle components”) ST 2, Cat X (if non-flammable and non-combustible)	X
Noxious liquid, NF, (5) n.o.s. (“trade name” contains “principle components”) ST 2, Cat Y (if non-flammable and non-combustible)	Y
Noxious liquid, NF, (7) n.o.s. (“trade name” contains “principle components”) ST 3, Cat Y (if non-flammable and non-combustible)	Y
Noxious liquid, NF, (9) n.o.s. (“trade name” contains “principle components”) ST 3, Cat Z (if non-flammable and non-combustible)	Z
Noxious liquid, NF, (11) n.o.s. (“trade name” contains “principle components”) Cat Z (if non-flammable and non-combustible)	Z
Noxious liquid, NF, (12) n.o.s. (“trade name” contains “principle components”) Cat OS (if non-flammable and non-combustible)	OS
Orange juice (concentrated)	**OS**
Orange juice (not concentrated)	**OS**
Pentasodium salt of Diethylenetriamine pentaacetic acid solution, see Diethylenetriamine pentaacetic acid, pentasodium salt solution	……
Polyaluminum chloride solution	Z
Potassium chloride solution (26% or more), see Drilling brines, including: Calcium bromide solution, Calcium chloride solution and Sodium chloride solution	……
Potassium chloride solution (less than 26%)	**OS**
Potassium formate solutions	**Z**
Potassium thiosulfate (50% or less)	**Y**
Sewage sludge, treated (*treated so as to pose no additional decompositional and fire hazard; stable, non-corrosive, non-toxic, non-flammable)*	#

Silica slurry	#
Sludge, treated (*treated so as to pose no additional decompositional and fire hazard; stable, non-corrosive, non-toxic, non-flammable)*	#
Sodium acetate, Glycol, Water mixture (containing 1% or less Sodium hydroxide) (if non-flammable or non-combustible)	#
Sodium acetate solutions	Z
Sodium alkyl (C14–C17) sulfonates (60-65% solution)	**Y**
Sodium aluminosilicate slurry	Z
Sodium bicarbonate solution (less than 10%)	**OS**
Sodium carbonate solution	Z
Sodium hydrogen sulfide (6% or less)/Sodium carbonate (3% or less) solution	**Z**
Sodium lignosulfonate solution, *see also* Lignin liquor	Z
Sodium naphthenate solution (free alkali content, 3% or less), see Naphthenic acid, sodium salt solution	…..
Sodium poly(4+)acrylate solutions	Z
Sodium silicate solution	Y
Sodium sulfate solutions	Z
Sodium sulfite solution (25% or less)	**Y**
Sodium thiocyanate solution (56% or less)	**Y**
Sorbitol solution	OS
Sulfonated polyacrylate solution	Z
Tetrasodium salt of Ethylenediaminetetraaacetic acid solution, see Ethylenediaminetetraacetic acid, tetrasodium salt solution	……
Titanium dioxide slurry	Z
1,1,1-Trichloroethane	Y
1,1,2-Trichloro-1,2,2-trifluoroethane	Y
Trisodium salt of N-(Hydroxyethyl)ethylenediamine triacetic acid solution, see N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution.	…….
Urea, Ammonium mono-and di-hydrogen phosphate, Potassium chloride solution	#
Urea/Ammonium nitrate solution	**Z**
Urea/Ammonium phosphate solution	Y
Urea solution	Z
Vanillan black liquor (free alkali content, 1% or less)	#
Vegetable protein solution (hydrolyzed) (if non-flammable and non-combustible)	OS
Water	OS
Zinc bromide, Calcium bromide solution, see Drilling brines (containing Zinc salts)	…..

Explanation of Symbols Used in this Table:

X, Y, Z—NLS Category of Annex II of MARPOL 73/78.

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

OS—Other substances, at present considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations.

Abbreviations for Noxious liquid substances used in this table:

Cat—Pollution category.

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

n.o.s.—Not otherwise specified.

ST—Ship type.

Entries in bold were added from the March 2012 Annex to the 2007 IBC Code.

Dated: 13 October, 2015.

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