Forbidden; in Column 7(a), 4; in Column 7(b), 5; and in Column 7(c); no entry.

* * * * *

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGING

3. Section 173.21 would be revised to read as follows:

§ 173.21 Forbidden materials and packages.

(a) Unless otherwise provided in this subchapter, the offering for transportation of the following is forbidden:

(1) A hazardous material in the same packaging, freight container, or overpack with another hazardous material, the mixing of which would be liable to cause a dangerous evolution of heat or gas, or produce corrosive materials, except as provided in §§ 173.152(a) and 173.242(a) and (b).

(2) A package containing a material which is liable to decompose or polymerize at a temperature of 130° F. (54.4° C.) or less with an evolution of a dangerous quantity of heat or gas unless stabilized or inhibited in a manner that will preclude such dangerous evolutions. Refrigeration may be used as a means of stabilization only when approved by the Associate Director for OE.

(3) Packages which evolve a dangerous quantity of flammable gas or vapor released from a material not otherwise subject to this subchapter.

(4) Packages containing materials (other than those classed as explosives) which will detonate in a fire.

(5) Any package containing a cigarette lighter or other similar device with fuel and equipped with an ignition element, unless the design of the device and its packaging insofar as they affect safety in transportation have been examined and approved by MTB. (An approval which was issued by the B of E remains valid to the same extent as if it had been issued by MTB.) For lighers containing gases, also see § 173.308.

4. Section 173.51 would be revised to read as follows:

§ 173.51 Forbidden explosives.

(a) Unless otherwise provided in this subchapter, the transportation of the following explosives is forbidden:

(1) Explosive compounds, mixtures or devices which ignite spontaneously or undergo marked decomposition when subjected to a temperature of 167° F. (75° C.) for 48 consecutive hours.

(2) New explosive compounds, mixtures or devices except as provided for in § 173.86.

(3) Explosive mixtures or devices containing an ammonium salt and a chlorate.

(4) Explosive mixtures or devices containing an acidic metal salt and a chlorate.

(5) Leaking or damaged packages of explosives.

(6) Nitroglycerin, diethylene glycol dinitrate or other liquid explosives not authorized by § 173.53 (e) or (h). (For shipment by motor vehicle other than by common carriers, see § 177.822(b) of this subchapter.)

(7) Loaded firearms.

(8) Fireworks that combine an explosive and a detonator or blasting cap.

(9) Fireworks containing yellow or white phosphorous.

(10) Toy torpedoes, the maximum outside dimension of which exceeds ⅞-inch, or toy torpedoes containing a mixture of potassium chlorate, black antimony, and sulfur with an average weight of explosive composition in each torpedo exceeding four grains.

5. A new § 173.179 would be added to read as follows:

§ 173.179 N-Methyl-N'-nitro-N-nitrosoguanidine.

N-Methyl-N'-nitro-N-nitrosoguanidine must be packaged as follows: Quantities may not exceed 25 grams and must be placed in a polyethylene bottle which is tightly closed and the closure secured in place with pressure sensitive tape. The bottle must be sealed in a polyethylene bag constructed of polyethylene at least 4 mils thick. The bag containing the bottle must be cushioned in a hermetically sealed can with non-combustible cushioning material. There must be at least one inch of cushioning material between any part of the bag and any inner surface of the can. The metal can must be cushioned in a DOT 12B fiberboard box constructed of at least 350 pound test fiberboard. There must be at least one inch of cushioning material between any surface of the can and any inner surface of the fiberboard box.

Authority: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A. to Part 1, and paragraph (a)(4) of App. A. Part 106.

Note.—The Materials Transportation Bureau has determined that this document does not contain a major proposal requiring the preparation of an economic impact statement under Executive Order 12044 and DOT implementing procedures (43 FR 9582), nor an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation is available for review in the Docket.

Issued in Washington, D.C., on July 13, 1979.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

[FR Doc. 79-22371 Filed 7-25-79; 8:45 am]

BILLING CODE 4910-60-M

[49 CFR Parts 171, 172, and 176]

[Docket No. HM-171; Notice No. 79-11]

Use of United Nations Shipping Descriptions

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, DOT

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to amend the Hazardous Materials Regulations to authorize the optional use of United Nations shipping descriptions and identification numbers for certain hazardous materials in place of the descriptions required by existing Department of Transportation (DOT) regulations. This proposal is intended to facilitate the international transportation of hazardous materials and to minimize the economic burdens imposed on shippers by the multiplicity of package markings and shipping paper descriptions now required to comply with both the domestic and international standards. In addition, the proposal would provide optional stowage locations for hazardous materials when transported by vessel. The optional stowage locations authorized are those provided for the particular hazardous material in the International Maritime Dangerous Goods (IMDG) Code published by the Inter-Governmental Maritime Consultative Organization (IMCO).

DATE: Comments by October 18, 1979.

ADDRESS COMMENTS TO: Dockets Branch, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590. Comments may be reviewed in the dockets Branch, Room 6500, Trans Point Building, between 8:30 a.m. and 5:00 p.m., Monday through Friday.

FOR FURTHER INFORMATION CONTACT: LCDR Edward A. Altemos, USCG, International Standards Coordinator, Office of Hazardous Materials Regulation, Materials Transportation Bureau, 2100 Second Street SW., Washington, D.C., 20590, 202-426-0656.

SUPPLEMENTARY INFORMATION: In recent years increasing worldwide recognition has been accorded the IMCO IMDG Code as the basic standard governing

the international transport of packaged hazardous materials by sea. At this time at least twenty-eight nations have incorporated the IMCO Code in whole or in part into their natinal hazardous materials regulations. Included in this number is the vast majority of the industrialized nations, nations with which the United States conducts a vigorous trade in packaged hazardous materials.

One serious problem confronting the United States exporter or importer of hazardous materials is the disparity between shipping descriptions which may be required for the same hazardous material under the DOT's Hazardous Materials Regulations and the IMCO Code. Since the DOT regulations do not currently provide for the use of IMCO shipping descriptions, when the IMCO and DOT shipping descriptions for a particular hazardous material differ, the shipper finds it necessary to mark both shipping names on the package and to include both shipping names on the shipping papers. This duplicity of effort is necessary in order to insure that the shipment can move under DOT regulations to a port, will be accepted for transportation by vessel, and finally will be deemed suitable for discharge and subsequent transport in foreign countries. The Materials Transportation Bureau (MTB) believes that, in general, the costs incurred by the shipper in dual marking of packages and dual description of hazardous materials on shipping papers are disproportionate to any possible safety benefit which may be achieved by this practice. Also, such a practice creates confusion during the transportation of these materials.

With the publication of the revised and consolidated DOT Hazardous Materials Regulations under Docket HM-103/112, a provision was included in the regulations that allowed hazardous materials (except Class A and B explosives and radioactive materials) being imported to or exported from, or transiting the United States, classified and labeled in accordance with the IMCO Code to be transported by any mode of transport within the United States. This provision was included to alleviate difficulties arising from the different classification and labeling requirements that may be provided for the same hazardous material under the IMCO Code and DOT regulations. The purpose of this notice is, in essence, to extend this authorization to include use of the IMCO shipping description as well as the IMCO classification and label. In addition, this notice would expand the applicability of this authorization to domestic as well as international shipments. This action is taken in recognition of the fact that when hazardous materials packages are initially marked and labeled during production, the shipper may have no idea as to whether his hazardous material will be sold domestically or will be exported. To maintain a distinction between the shipping description requirements based upon ultimate destination of the hazardous material would lead to either remarking and relabeling packages prior to exporting them, or to initially marking both DOT and IMCO shipping names on the package when it is filled. Neither of these alternatives is considered to be a significant improvement over the practice mandated by the present situation.

On January 17, 1978, the National Transportation Safety Board (NTSB) issued Safety Recommendation I-78-1 in which the NTSB recommended that the Secretary of Transportation:

> Develop, publish and maintain an official list of regulated hazardous materials that cross-references all U.S., U.N., IMCO, and IATA commodity descriptions and reference numbers. The list should be arranged for convenient use by all persons engaged in the export or import of hazardous materials. (Class II, Priority Action (I-78-1)

As a supporting argument for this recommendation, the NTSB made reference to the aircraft crash at Boston, Massachusetts, in 1973. While the MTB is not convinced that the existence of such a list would have in any way mitigated the catastrophic results of the Boston incident, the MTB strongly supports the principle underlying this recommendation; that is, that hazardous materials shipping descriptions used in all modes of international transport should be made readily available in a form convenient for use. MTB believes that this goal can be achieved by including these international shipping descriptions in the DOT Hazardous Materials Regulations. Implementation of NTSB Safety Recommendation I-78-1 is, therefore, an ancillary purpose for this notice.

In its recommendation, the NTSB makes reference to UN (United Nations), IMCO and IATA (International Air Transport Association) commodity descriptions. Since the shipping names used in the IMCO Code are, for the most part, extracted from the recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods, publication of the IMCO shipping descriptions will include the vast majority of the entries in the United Nations recommendations. In addition, since the IMCO recommendations are operative modal recommendations which have been implemented by many governments whereas the UN recommendations are not, it is considered more appropriate for the time being to publish only the descriptions used in the operative international recommendations.

Regarding the NTSB's suggested use of IATA descriptions, the MTB is of the opinion that most of the IATA descriptions are the same as those listed in § 172.101. Also, the International Civil Aviation Organization (ICAO) is currently developing regulations for the international transport of hazardous materials by air. Inclusion of ICAO descriptions in the optional list (upon promulgation of the ICAO regulations) is considered an appropriate action since ICAO is the recognized intergovernmental organization charged with the responsibility for developing safety standards for international air transport. Therefore, it is envisioned that the list of shipping descriptions proposed in this notice will eventually be expanded to incorporate ICAO descriptions as appropriate. It should be noted, however, that, as with IMCO, the ICAO descriptions are based upon descriptions recommended by the UN Committee of Experts. For this reason, it is anticipated that the vast majority of the IMCO descriptions contained in this notice will ultimately be authorized descriptions under the ICAO regulations. The similarity between the descriptions authorized by IMCO and ICAO is not coincidental, but rather is a result of an intensive effort under way at these organizations to harmonize international requirements for the transportation of hazardous materials by sea and air through recognition of the recommendations developed by the UN Committee of Experts.

The descriptions proposed in this notice are those appearing in the IMCO Code (as modified by Amendments 14-76 and 15-77) that describe hazardous materials which would generally not be classified as Class A or B explosives or radioactive materials under the DOT regulations. Entries in the IMCO Code which clearly apply only to hazardous materials which would be classified as Class A or B explosive or radioactive materials have not been included in this notice since authorization to use the appropriate IMCO classification and labels for such materials is not authorized by the DOT regulations at this time.

The drafter of this document is LCDR Edward A. Altemos, USCG, Office of Hazardous Materials Regulation. The

following is an analysis and explanation, by section, of the more significant features of this proposal.

Section 171.2. Two minor amendments are proposed to this section to include a reference to § 176.11 which was inadvertently omitted from the revision of this paragraph published under Docket HM-103/112.

Section 171.12. Paragraph (b) of this section is no longer considered necessary since the provisions of this paragraph are contained in the proposed § 172.102(b). Therefore, it is proposed that this paragraph be replaced by an appropriate cross reference to § 172.102.

Section 172.102. A new § 172.102 would be added. This section would contain the Optional Hazardous Materials Table as well as the text necessary to explain the table and implement its use.

Paragraph (a) of this section sets forth the basic purpose of the Optional Hazardous Materials Table which is to provide hazardous materials description, classification, labeling and vessel stowage requirements which may be used for certain hazardous materials as an alternative to the corresponding requirements provided in § 172.101. However, materials subject to the DOT regulations that are not considered dangerous under IMCO recommendations would have to be transported in accordance with the applicable DOT regulations. This exclusion has been included to insure that it is clearly understood that materials such as a combustible liquid with a flash point greater than 141° F. (in packagings of a capacity exceeding 110 gallons), which would not be considered dangerous according to IMCO definitions, would be subject to all applicable DOT requirements. A statement is also included in this paragraph to clarify the fact that many of the materials shown in the Optional Hazardous Materials Table are not subject to the DOT regulations and that their inclusion in the optional list does not constitute a designation of the material as a hazardous material. Only materials designated as hazardous materials in § 172.101 or covered by the prohibition specified in §§ 173.21 and 173.51 would be subject to the DOT regulations.

Entries for materials not designated as hazardous in § 172.101 would be retained in the optional list to alert persons who may be engaged in importing or exporting such materials that the materials may be considered hazardous under widely applied international standards and to provide basic guidance relative to the classification and labeling of these materials in international transport.

Paragraph (b) of § 172.102 proposes conditions under which the description, class or label(s) provided in the Optional Hazardous Materials Table could be used in lieu of the DOT description, classification or label(s), respectively. Class A and B explosives and Radioactive materials would be excluded from application of the provisions of § 172.102. Therefore, in order for a shipper to determine if he may use the Optional Hazardous Materials Table he would first establish the classification of the hazardous material under consideration in accordance with all applicable requirements of the DOT regulations. This is particularly important in the case of explosives where the classification *may not* necessarily be established solely by the shipper. Once the shipper has classified the hazardous material as provided in the DOT regulations, has determined that the material is not a Class A or B explosive or a Radioactive material, and is not a forbidden material, he could then proceed to use the Optional Hazardous Materials Table if he so desired.

The conditions in the existing § 171.12(b) under which the IMCO class and label(s) may be used when a hazardous material is transported by air, highway or rail have been retained in § 172.102(b), with the exception of the condition previously discussed that limited the application of the paragraph to import, export or transiting shipments. It is proposed that the IMCO shipping name may only be used when the material conforms to all additional defining or limiting conditions prescribed for the description in the appropriate schedule in the IMCO Code. Individual IMCO Code schedules often contain criteria or additional information which limit the applicability of a particular description, and the MTB believes that these additional provisions should be observed in selecting an IMCO shipping description from § 172.102. The use of IMCO shipping name is also made conditional upon inclusion of the UN number shown for the entry (if any) in the Optional Hazardous Materials Table immediately after the required class entry in the shipping papers. This would be required not only to insure consistency with the United Nations standards for transport documentation, but also to enhance emergency response capabilities. Additional information concerning the use of the UN number for emergency response purposes is provided in the preamble to the Docket HM-126A Notice of Proposed Rulemaking which was published on June 7, 1979 (44 FR 32972).

Paragraph (c) of § 172.102 would require that the description for a material designated as a hazardous substance in § 172.101 be augmented by the technical name of the substance if that name does not appear in the optional shipping description. This is to insure that hazardous substances do not lose their basic identity when a shipper chooses to utilize a shipping description from the Optional Hazardous Materials Table in place of the name that would be otherwise required by § 172.101.

Paragraphs (d) through (j) explain the content of columns 1 through 7 respectively of the Optional Hazardous Materials Table. Column 1 contains the letter "N" adjacent to certain entries. This indicates that the particular shipping description, class and label(s) shown in § 172.102 are not acceptable alternatives to the applicable DOT requirements in § 172.101 and, therefore, may not be used. This prohibition would be imposed only when the MTB believes the IMCO description and/or classification appearing in § 172.102 will not adequately communicate the hazard(s) of the material in all modes of transport.

Column 2 of the Optional Hazardous Materials Table lists the proper shipping names contained in the IMCO Code. The basic format of entries and methods of selection and presentation of proper shipping names on shipping documents and packages are identical to those in § 172.101. As previously discussed, entries that are contained in the IMCO Code which describe materials that could only be classified as Class A or B explosives or Radioactive materials under DOT regulations have been omitted from the list. Also omitted from the Optional Hazardous Materials Table are a limited number of entries from the IMCO Code which:

(1) Are not included in the UN recommendations and to which no UN number has been assigned;

(2) Are not "N.O.S." entries that would require addition of the technical name of the hazardous material; and,

(3) In the opinion of the MTB, are not sufficiently explicit to permit appropriate response measures to be initiated in the event of an incident.

Examples of such entries are the IMCO shipping names "Acaricides" and "Nematocides." Hazardous materials falling within such descriptions will, therefore, be transported under the next most appropriate description in § 172.102 (such as Poisonous liquid,

n.o.s., in the case of the above examples), or under the appropriate description in § 172.101.

Column 3 of the Optional Hazardous Materials Table sets forth the IMCO hazard class or division of the material as appropriate. Paragraph (f) of § 172.102 includes a brief definition of each of the IMCO hazard classes and divisions and refers the user to the IMCO Code for more detailed definitions.

Column 4 of the table indicates the United Nations number assigned to the material, if any. In certain cases where no UN number has been assigned to a particular material, the MTB has inserted in Column 4 the UN number of the appropriate generic, or "n.o.s.," entry under which the material would be included. In such cases, the UN number listed has been shown in parentheses.

Column 5 specifies the labels to be applied to the hazardous material. Specifications for the labels may be either as provided in the DOT regulations or in the IMCO Code. The label described as "St. Andrew's Cross" in this column refers to the label specified for Division 6.1, Packaging Group III materials in the UN and IMCO recommendations.

Column 6, which is for informational purposes only, provides the packaging group assigned to the material in the IMCO Code. An explanation of the meaning and purpose of this grouping system, as well as the grouping criteria developed for certain hazard classes, is presented in the recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods. These recommendations, entitled "Transport of Dangerous Goods," may be obtained from the United Nations bookstores in New York or Geneva, Switzerland. The MTB believes that a number of individuals involved in the international transportation of hazardous materials have gained sufficient working knowledge of the grouping system to merit the inclusion of packaging groups in the Optional Hazardous Materials Table.

Column 7 sets forth the vessel stowage requirements for the hazardous materials as provided in the IMCO Code. Although § 172.101 was revised with the publication of Docket HM-103/112 to include IMCO stowage requirements to the maximum extent possible, the differences between shipping descriptions for certain hazardous materials in the DOT regulations and the IMCO Code made it impossible to include the IMCO stowage requirements for all hazardous materials. The MTB believes that consistency between the DOT and IMCO stowage requirements is necessary to insure that vessels loaded in United States ports will not be in violation of the stowage requirements in force in those nations who have adopted the IMCO Code into their national regulations, and vice versa. Inclusion of the majority of the IMCO shipping descriptions in the Optional Hazardous Materials Table would make it possible to authorize the use of IMCO stowage when hazardous materials are transported under an appropriate IMCO description. The meanings of numbers used to designate acceptable stowage locations are explained in the proposed § 172.102(j). The numbers used in § 172.102 retain the same meaning assigned to them in § 172.101; however, the explanations of the meanings of these numbers have been revised in an effort to provide greater clarity.

Section 172.201. Paragraph (a)(4)(i) of this section would be amended to allow the optional insertion of the entries "IMCO" or "IMCO Class" in the hazardous materials description on the shipping papers. The MTB believes that certain shippers may desire to include these entries to clarify the fact that a hazardous material is being offered under its IMCO classification, particularly when this classification differs from that provided for the material in § 172.101.

Section 176.11. A new paragraph (f) would be added to permit hazardous materials classed, labeled and described in accordance with the Optional Hazardous Materials Table to be stowed as provided in that Table. The purpose of this authorization is explained elsewhere in this notice.

In consideration of the foregoing, it is proposed to amend Parts 171, 172 and 176 of Title 49, Code of Federal Regulations as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. § 171.2 paragraphs (a) and (b) would be amended by adding "in § 176.11 of this subchapter and" immediately preceding "§ 171.12" in the first line of each paragraph.

2. § 171.12 paragraph (b) would be revised to read as follows:

§ 171.12 Import and export shipments.

* * * * *

(b) Provisions under which certain hazardous materials may be transported when classified, labeled and described in accordance with the IMCO Code are set forth in § 172.102 of this subchapter.

* * * * *

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

3. The title of Part 172 would be amended by replacing the word "TABLE" with the word "TABLES."

4. The title of Subpart B would be amended by replacing the word "TABLE" with the word "Tables."

5. A new § 172.102 would be added to read as follows:

§ 172.102 Purpose and use of the optional hazardous materials table.

(a) The Optional Hazardous Materials Table set forth in this section provides description, classification, labeling and vessel stowage requirements which may be used as an alterantive to the corresponding requirements in § 172.101 under conditions set forth in this section. The provisions of this section do not apply to materials designated as hazardous materials under this subchapter that are not subject to the requirements of the IMCO Code. This section does not designate materials as hazardous materials. Such designations are made only in § 172.101. A number of materials listed in this section may not be subject to the requirements of this subchapter, but they are subject to regulation under widely applied international standards and are listed in this section in the interest of providing consistency with those standards and to alert persons offering or accepting these materials for transportation that they may be subject to regulation in international transport.

(b) The requirements of § 172.101 notwithstanding, a hazardous material (other than Class A or B explosives and Radioactive materials) may be classed, labeled or described in accordance with this section provided the material conforms to all additional defining or limiting conditions prescribed for the description in the appropriate schedule of the IMCO Code. When a material is transported by air, highway or rail under the description and IMCO class or division provided in this section, the shipping paper required by § 172.202(a)(2) must include a class name set forth in this subchapter that most appropriately corresponds to the IMCO class or division. In addition, the UN number specified for the material in this section must be included immediately after the required class entry. For example, according to this section the shipping description and

IMCO division for ethylene oxide are "Ethylene oxide 2.1." While ethylene oxide would be classed as a flammable liquid under § 172.101, the class in this subchapter that most closely corresponds to the IMCO class is "flammable gas." The proper entry would be "Ethylene oxide, Flammable gas, UN1040" or "Ethylene Oxide, 2.1, Flammable gas, UN1040."

(c) If a hazardous material that is designated as a hazardous substance in § 172.101, is offered, accepted or transported under an acceptable shipping name from the Optional Hazardous Materials Table that does not contain the technical name of the designated hazardous substance, the proper shipping name must include the technical name of the hazardous substance in parentheses immediately following the selected entry.

(d) Column 1 contains the letter "N" immediately adjacent to certain entries. The letter "N" means that the entry is not an acceptable alternative and the material must be transported under the appropriate entry in § 172.101.

(e) Column 2 lists the optional proper shipping names for hazadous materials. Proper shipping names are limited to those shown in Roman type (not Italics). In the selection of a proper shipping name to describe a particular material, if the correct technical name is not shown, or is not appropriate, selection must be made from the general descriptions or "n.o.s." entries corresponding to the specific hazard class of the material being shipped. The name that most appropriately describes the material must be used, i.e., an alcohol must be shipped as an alcohol n.o.s. rather than flammable liquid n.o.s. unless the technical name of the alcohol is listed, e.g., methanol. Some mixtures may be more aptly described by their application such as "Paint" or "Cleaning compound."

(1) Shipping names may be entered in either upper or lower case letters.

(2) The words in italics are not part of the proper shipping name but may be used in addition to the proper shipping name. The word "or" in italics indicates that any terms in the sequence may be used as the proper shipping name as appropriate.

(3) When one entry references another entry by use of a *"see"*, if both names are in Roman type, either name may be used as a proper shipping name (e.g., Methyl alcohol *see* Methanol). (f) Column 3 contains the hazard class or division designated for the material in the IMCO Code. In the case of explosives, a letter designating the "compatibility group" of the substance or article is also included immediately following the division. Detailed definitions of the classes, divisions and compatibility groups are provided in the IMCO Code. Basic definitions of the IMCO classes and divisions are as follows:

(1) Class 1—Explosives.

(i) Division 1.1—Substances and articles which have a mass explosion hazard.

(ii) Division 1.2—Substances and articles which have a projection hazard but not a mass explosion hazard.

(iii) Division 1.3—Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

(iv) Division 1.4—Substances and articles which present no significant hazard.

(v) Division 1.5—Very insensitive substances.

(2) Class 2—Gases (compressed, liquefied or dissolved under pressure).

(i) Division 2.1—Flammable gases.

(ii) Division 2.2—Nonflammable gases.

(iii) Division 2.3—Poison gases.

(3) Class 3—Flammable liquids.

(i) Division 3.1—Low flash point group (liquids with flash points below 0°F.)

(ii) Division 3.2—Intermediate flash point group (liquids with flash points of 0°F. or above but less than 73°F.).

(iii) Division 3.3—High flash point group (liquids with flash points of 73°F. or above but less than 141°F.).

(4) Class 4—Flammable solids or substances.

(i) Division 4.1—Flammable solids.

(ii) Division 4.2—Substances liable to spontaneous combustion.

(iii) Division 4.3—Substances emitting flammable gases when wet.

(5) Class 5—Oxidizing substances.

(i) Division 5.1—Oxidizing substances or agents.

(ii) Division 5.2—Organic peroxides.

(6) Class 6—Poisonous and infectious substances.

(i) Division 6.1—Poisonous substances.

(ii) Division 6.2—Infectious substances.

(7) Class 7—Radioactive substances.

(8) Class 8—Corrosives.

(9) Class 9—Miscellaneous dangerous substances.

(g) Column 4 contains the United Nations number listed for the substance or article in the IMCO Code. A number of substances or articles have no United Nations number provided for them in the IMCO Code. For some of these entries, the United Nations number of the article or substance which most appropriately corresponds to that particular entry is shown in parentheses.

(h) Column 5 specifies the labels to be applied to each outside packaging. Specifications for labels required shall be either as provided in this subchapter or as provided in the IMCO Code.

(i) Column 6 provides the packaging group specified for the material in the IMCO Code.

(j) Column 7 specifies each of the authorized stowage locations on board cargo vessels and passenger vessels and certain additional requirements for shipments of listed hazardous materials. Section 176.63 of this subchapter sets forth the physical requirements for each of the authorized stowage locations listed in Column 7. The authorized stowage locations are defined as follows:

(1) "1" means the material must be stowed "on deck."

(2) "2" means the material must be stowed "under deck."

(3) "3" means the material must be stowed "under deck away from heat."

(4) "1,2" means the material may be stowed either "on deck" or "under deck"; however, "under deck" stowage should be used if available.

(5) "1,3" means the material may be stowed either "on deck" or "under deck away from heat"; however, "under deck away from heat" stowage should be used if it is available.

(6) "5" means the material is forbidden and may not be offered or accepted for transportation by vessel.

Optional Hazardous Materials Table.

BILLING CODE 4910-06-M

172.102 Optional Hazardous Materials Table

1

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Acetal	3.1	UN 1088	Flammable Liquid	II	1,3	5	Keep cool
	Acetaldehyde	3.1	UN 1089	Flammable Liquid	I	1,3	5	Keep cool
	Acetic acid, *solution containing not less than 80% of acid*	3.3	UN 1842	Flammable Liquid, Corrosive	II	1,2	1,2	
	Acetic anhydride	8	UN 1715	Corrosive	II	1,2	1,2	Separate longitudinally by an intervening complete compartment or hold from explosives
	Acetone	3.1	UN 1090	Flammable Liquid	II	1,3	5	
	Acetone cyanohydrin, *stablilized*	6.1	UN 1541	Poison	I	1	5	Shade from radiant heat. Stow 'away from' acids and alkalis
	Acetone oils	3.2	UN 1091	Flammable Liquid	II	1,2	1	
	Acetonitrile. *See* Methyl cyanide							
	Acetyl acetone peroxide, *maximum concentration 40% in solution*	5.2	UN 2080	Organic Peroxide	II	1	5	
	Acetyl benzoyl peroxide, *maximum concentration 45% in solution*	5.2	UN 2081	Organic Peroxide	II	1	5	
	Acetyl bromide	8	UN 1716	Corrosive	I	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Acetyl chloride	8	UN 1717	Corrosive, Flammable Liquid	I	1	1	Keep dry. Shade from radiant heat. Stow separated longitudinally by an intervening complete compartment or hold from explosives
	Acetyl cyclohexane sulphonyl peroxide, *maximum concentration 82%, wetted with minimum 12% water*	5.2	UN 2082	Organic Peroxide	I	1	5	Maximum transport temperature -10 degrees C
	Acetyl cyclohexane sulphonyl peroxide, *maximum concentration 32% in solution*	5.2	UN 2083	Organic Peroxide	II	1	5	Maximum transport temperature -10 degrees C
	Acetyl iodide	8	UN 1898	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Acetyl peroxide, *maximum concentration 27% in solution*	5.2	UN 2084	Organic Peroxide	II	1	5	
	Acetylene, *dissolved*	2.1	UN 1001	Flammable Gas	--	1	1	Shade from radiant heat. Stow 'separate from' chlorine
	Acetylene tetrabromide	6.1	UN 2504	St. Andrews Cross	III	1,2	1,2	
	Acid butyl phosphate	8	UN 1718	Corrosive	III	1,2	1,2	Glass carboys in hampers prohibited under deck
	Acid mixtures, *hydrofluoric and sulphuric*	8	UN 1786	Corrosive	I	1	5	Stow 'away from' fluorides
	Acid mixtures, *nitrating acid*	8	UN 1796	Corrosive	I/II	1	5	Stow 'away from' fluorides
	Acid mixtures, *spent*	8	UN 1826	Corrosive	I/II	1	5	Stow 'away from' fluorides
	Acids, liquid, n.o.s.. *See* Corrosive liquids, n.o.s.							
	Acrolein, *inhibited*	3.1	UN 1092	Flammable Liquid, Poison	I	1,3	5	Keep cool
	Acrylamide	6.1	UN 2074	St. Andrews Cross	III			
	Acrylic acid, *inhibited*	8	UN 2218	Corrosive	II	1	1	Shade from radiant heat. Keep cool. Glass carboys prohibited on passenger vessels
	Acrylonitrile, *inhibited*	3.1	UN 1093	Flammable Liquid, Poison	I	1,2	5	Keep cool
	Activated carbon. *See* Carbon, *activated*							
	Activated charcoal. *See* Carbon, *activated*							
	Adhesives, n.o.s.. *See* Cement, adhesive, *containing a flammable liquid*							
	Adiponitrile	6.1	UN 2205	St. Andrews Cross	III	1,2	1,2	Shade from radiant heat
N	Aerosol dispensers, *with a capacity of 1400 cubic cm. or more*	2	UN 1950		--			
	Aerosol dispensers, *with a capacity below 1400 cubic cm.:*							
	(1) more than 10% by weight of total contents consisting of flammable gas	2.1	UN 1950	Flammable Gas	--	1,3	1,3	
	(2) internal pressure greater than 160 psig at 130 deg F.	2.2	UN 1950	Nonflammable Gas	--	1,3	1,3	
	(3) more than 45% by weight of total contents consisting of flammable liquid. This limit is reduced to 35% if there is any flammable gas present.	3.1 3.2 3.3	UN 1950 UN 1950 UN 1950	Flammable Liquid Flammable Liquid Flammable Liquid	-- -- --	1,3 1,3 1,3	1,3 1,3 1,3	
	(4) more than 10% by weight of toxic substances in the liquid concentrate	6.1 6.1	UN 1950	Poison St. Andrews Cross	I/II III	1,3 1,3	1,3 1,3	
	(5) more than 5% by weight of corrosive substances in the liquid concentrate	8	UN 1950	Corrosive	--	1,3	1,3	
	(6) as specified under Group 2 on page 9011 of IMCO Code	9	UN 1950	None	--			
	Aerosols or aerosol product. *See* Aerosol dispensers							
	Agents, blasting, Type B. *See* Explosives, blasting, Type B							
	Agents, blasting, Type E. *See* Explosives, blasting, Type E							
	Air, *compressed*	2.2	UN 1002	Nonflammable Gas	--	1,2	1,2	
	Air, *liquid*	2.2	UN 1003	Nonflammable Gas, Oxidizer	--	1,3	1,3	Stow 'separate from' acetylene. Do not overstow
	Alarm devices, explosive	1.4 S	UN 0001	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Alcohol, *denatured*	3.2 3.3	UN 1095 UN 1095	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Alcohol, *industrial*	3.2 3.3	UN 1096 UN 1096	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Alcohols, *(non-toxic)*, n.o.s.	3.2 3.3	UN 1987 UN 1987	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1	
	Alcohols, *(toxic)*, n.o.s.	3.2 3.3	UN 1986 UN 1986	Flammable Liquid, Poison Flammable Liquid, Poison	II II	1,2 1,2	1 1	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Aldehydes, *(non-toxic)*, n.o.s.	3.2 3.3	UN 1989 UN 1989	Flammable Liquid Flammable Liquid[1]	II II	1,2 1,2	1 1,2	
	Aldehydes, *(toxic)*, n.o.s.	3.2 3.3	UN 1988 UN 1988	Flammable Liquid, Poison Flammable Liquid, Poison	II II	1,2 1,2	1 1,2	
	Aldrin *and its mixtures*	6.1	UN 1542	Poison	II/III	1,2	1,2	
	Alkali metal amalgams, n.o.s.	4.3	UN 1389	Dangerous When Wet	I	1,2	1,2	
	Alkali metal amides, n.o.s.	4.3	UN 1390	Dangerous When Wet	II	1,2	5	
	Alkali metal dispersions, n.o.s.	4.3	UN 1391	Dangerous When Wet	I	1,2	5	
	Alkali metals, *liquid alloys of*	4.3	UN 1421	Dangerous When Wet	I	1,2	5	
	Alkaline caustic liquids, n.o.s.. *See* Caustic alkali liquids, n.o.s.							
	Alkaline corrosive liquids, n.o.s.. *See* Corrosive liquids, n.o.s.							
	Alkaline earth metal amalgams, n.o.s.	4.3	UN 1382	Dangerous When Wet	I	1,2	1,2	
	Alkaloids, *(poisonous), and their salts*, n.o.s.	6.1 6.1	UN 1544	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Alkanesulphonic acids	8	UN 1899	Corrosive	II	1,2	1	
	Alloys of alkaline earth metals, *(non-pyrophoric)*, n.o.s.	4.3	UN 1393	Dangerous When Wet	II	1,2	5	
	Allyl alcohol	3.2	UN 1098	Flammable Liquid, Poison	I	1,2	1	
	Allyl bromide	3.2	UN 1099	Flammable Liquid	I	1,2	1	
	Allyl chloride	3.1	UN 1100	Flammable Liquid, Poison	I	1,2	5	Keep cool
	Allyl chlorocarbonate. *See* Allyl chloroformate							
	Allyl chloroformate	8	UN 1722	Corrosive	I	1	5	Keep dry. Stow 'separated longitudinally' by an intervening complete compartment or hold from explosives
	Allyl iodide	8	UN 1723	Corrosive	I	1	5	Keep dry
	Allyl isothiocyanate, *stabilized*	6.1	UN 1545	Po ISOn	II	1	5	Shade from radiant heat
	Allyl trichlorosilane, *stabilized*	8	UN 1724	Corrosive	II	1	1	Keep dry. Stow 'separated longitudinally' by and intervening complete compartment or hold from explosives
	Aluminium alkyl halides, in solution	4.2	UN 2220	Spontaneously Combustible	II	1	1	
	Aluminium alkyl halides, *pure*	4.2	UN 2221	Spontaneously Combustible	I	1	1	
	Aluminium alkylchlorides	4.2	UN 2003	Spontaneously Combustible	I	1	1	
	Aluminium alkyls	4.2	UN 2003	Spontaneously Combustible	I	1	1	
	Aluminium bromide, *(anhydrous or solutions)*	8	UN 1725	Corrosive	II	1,2	1,2	Keep dry
	Aluminium carbide	4.3	UN 1394	Dangerous When Wet	II	1,2	1,2	
	Aluminium chloride, *(anhydrous or solutions)*	8	UN 1726	Corrosive	II	1,2	1,2	Keep dry
	Aluminium ferrosilicon, *powder*	4.3	UN 1395	Dangerous When Wet	II	1,2	1,2	
	Aluminium hydride	4.2	UN 2463	Spontaneously Combustible	I	1,2	5	
	Aluminium nitrate	5.1	UN 1438	Oxidizer	III	1,2	1,2	
	Aluminium phosphide	6.1	UN 1397	Poison, Dangerous When Wet	I	1,2	1,2	Stow 'away from' acids and oxidizing substances
	Aluminium, *powder, coated*	4.1	UN 1309	Flammable Solid	III	1,2	1,2	Keep dry. Stow 'away from' nonflammable gases and poisons
	Aluminium, *powder, pyrophoric*. *See* Pyrophoric metals							
	Aluminium, *powder, uncoated, non-pyrophoric*	4.3	UN 1396	Dangerous When Wet	II	1,2	1,2	Keep dry. Stow 'away from' nonflammable gases and poisons
	Aluminium silicon, *powder, uncoated*	4.3	UN 1398	Dangerous When Wet	III	1,2	1,2	
	Aluminium tributyl	4.2	UN 2003	Spontaneously Combustible	I	1	1	
	Aluminium triethyl	4.2	UN 1102	Spontaneously Combustible	I	1	1	
	Aluminium trimethyl	4.2	UN 1103	Spontaneously Combustible	I	1	1	
	Aminophenols (*o-, m-, p-*)	6.1	UN 2512	St. Andrews Cross	III	1,2	1,2	
	Ammonia, *anhydrous, liquefied, and ammonia solutions below S.G. 0.88 at 15 degrees C. ammonia liquid and ammonia solutions in water containing over 50% of ammonia.*	2.3	UN 1005	Poison Gas	–	1,2	5	Stow 'separate from' chlorine
	Ammonia, *solutions below S.G. 0.88 at 15 degrees C. containing more than 35% and not above 50% ammonia.*	2.2	UN 2073	Nonflammable Gas	–	1,2	5	Stow 'separate from' chlorine
	Ammonia solutions *having a density (specific gravity) between 0.880 and 0.957 at 15 deg C, in water, containing more than 10% and not more than 35% by weight ammonia.*	8	UN 2672	Corrosive	III	1,2	1,2	Stow 'away from' living quarters
	Ammonium arsenate	6.1	UN 1546	Poison	II	1,2	1,2	Stow 'away from' alkalis
	Ammonium bifluoride. *See* Ammonium hydrogen fluoride							
	Ammonium dichromate	5.1	UN 1439	Oxidizer	II	1,2	1,2	Stow 'away from' foodstuffs
	Ammonium dinitro-o-cresolate	9	UN 1843	None	II	1,2	1,2	Stow 'away from' heavy metals, 'separated from' flammable substances and 'separated by' an intervening complete compartment or hold from explosives
	Ammonium fluoride	6.1	UN 2505	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Ammonium hydrogen fluoride	8	UN 1727	Corrosive	II	1,2	1,2	Keep dry
	Ammonium metavanadate	6.1	UN 2859	Poison	II	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

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(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Ammonium nitrate, *containing more than 0.2% by weight of combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance*	1.1 D	UN 0222	Explosive (1.1D)	–	1,2	1,2	
	Ammonium nitrate, *containing not more than 0.2% of combustible material (including organic material calculated as carbon) and free from any other added matter*	5.1	UN 1942	Oxidizer	III	1,2	1,2	
	Ammonium nitrate fertilizer, *containing ammonium nitrate, n.o.s.*	5.1	UN 2072	Oxidizer	III	1,2	1,2	
	Ammonium nitrate fertilizers, *of the same composition as defined in class 5.1 on pages 5015 and 5016 of the IMCO Code but containing greater amounts of organic and/or combustible material than specified in these entries*	1.1 D	UN 0223	Explosive (1.1D)	–	1,2	1,2	
	Ammonium nitrate fertilizers, *Type A*							
	(1) Uniform non-segregating mixtures of ammonium nitrate with added matter which is inorganic and chemically inert towards ammonium nitrate, containing not less than 90% of ammonium nitrate and not more than 0.2% of combustible material (including organic material calculated as carbon), or containing less than 90% but more than 70% of ammonium nitrate and not more than 0.4% of total combustible material	5.1	UN 2067	Oxidizer	III	1,2	1,2	
	(2) Uniform non-segrating mixtures of ammonium nitrate with calcium carbonate and/or dolomite, containing more than 80% but less than 90% of ammonium nitrate and not more than 0.4% of total combustible material	5.1	UN 2068	Oxidizer	III	1,2	1,2	
	(3) Uniform non-segregating mixtures of ammonium nitrate/ammonium sulphate, containing more than 45% but not more than 70% of ammonium nitrate and containing not more than 0.4% of total combustible material	5.1	UN 2069	Oxidizer	III	1,2	1,2	
	(4) Uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, containing more than 70% but less than 90% of ammonium nitrate and not more than 0.4% of total combustible material	5.1	UN 2070	Oxidizer	III	1,2	1,2	1,2
	Ammonium nitrate fertilizers, *Type B. Uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, containing not more than 70% of ammonium nitrate and not more than 0.4% of total added combustible material or containing not more than 45% of ammonium nitrate with unrestricted combustible material*	9	UN 2071	None	III	1,2	1,2	
	Ammonium perchlorate	5.1	UN 1442	Oxidizer	II	1,2	5	Stow 'away from' powdered metals
	Ammonium persulphate	5.1	UN 1444	Oxidizer	III	1,2	1,2	
	Ammonium picrate, *wetted with not less than 10% water*	4.1	UN 1310	Flammable Solid	I	1	5	Stow 'away from' heavy metals
	Ammonium picrate, *wetted with not less than 33⅓% of water*	4.1	UN 1310	Flammable Solid	I	1,2	5	Stow 'away from' heavy metals
	Ammonium polyvanadate	6.1	UN 2861	Poison	II	1,2	1,2	
	Ammunition, illuminating, *with or without burster, expelling charge or propelling charge*	1.4 G	UN 0297	Explosive (1.4G)	–	1,3	1,3	
	Ammunition, incendiary *(other than water-activated ammunition), without white phosphorus or phosphides, with or without burster, expelling charge or propelling charge*	1.4 G	UN 0300	Explosive *(1.4G)*	–	1,3	1,3	
	Ammunition, practice	1.4G	UN 0362	Explosive (1.4G)	–	1,3	1,3	
	Ammunition, proof	1.4G	UN 0363	Explosive (1.4G)	–	1,3	1,3	
	Ammunition, *(tear producing), non-explosive, with neither burster nor expelling charge, non-fuzed*	6.1	UN 2017	Poison	II	1,2	5	Keep dry
	Ammunition, tear-producing, *with burster, expelling charge or propelling charge*	1.4 G	UN 0301	Explosive (1.4G), Poison, Corrosive	–	1,3	1,3	
	Ammunition, *(toxic), non-explosive, with neither burster nor expelling charge, non-fuzed*	6.1	UN 2016	Poison	II	1,2	5	Keep dry
	Amorces	1.4 S	UN 0022	None. Package to be marked '1.4 S'	–	1,3	1,3	
	Amyl acetates	3.2 3.3	UN 1104 UN 1104	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Amyl alcohols	3.2 3.3	UN 1105 UN 1105	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Amyl chloride	3.2	UN 1107	Flammable Liquid	II	1,2	1	
	Amyl formates	3.3	UN 1109	Flammable Liquid	II	1,2	1,2	
	Amyl hydride. *See* Pentane							
	Amyl mercaptan	3.2	UN 1111	Flammable Liquid	II	1,2	1	
	Amyl methyl ketone	3.3	UN 1110	Flammable Liquid	III	1,2	1,2	
	Amyl nitrate	3.3	UN 1112	Flammable Liquid	II	1,2	1,2	
	Amyl nitrite	3.1	UN 1113	Flammable Liquid	II	1,2	5	Keep cool
	Amyl trichlorosilane	8	UN 1728	Corrosive	II	1	1	Keep dry. Stow 'separated by an intervening complete compartment or hold from' explosives
	Amylamine	3.2	UN 1106	Flammable Liquid	II	1,2	1	
	n-Amylene	3.1	UN 1108	Flammable Liquid	I	1,2	5	
	Aniline	6.1	UN 1547	Poison	II	1,2	1,2	Stow 'away from' acids and oxidizers
	Aniline hydrochloride	6.1	UN 1548	St. Andrews Cross	III	1,2	1,2	Stow 'away from' alkalis
	Aniline oil. *See* Aniline							
	o-Anisidine	6.1	UN 2431	St. Andrews Cross	III	1,2	1,2	
	Anisoyl chloride	8	UN 1729	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Anti-freeze. *See* Flammable liquid preparations, n.o.s.							
	Antimony chloride. *See* Antimony trichloride, *liquid or solid*							

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Antimony compounds, *(inorganic)*, n.o.s.	6.1 6.1	UN 1549	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Antimony lactate	6.1	UN 1550	St. Andrews Cross	III	1,2	1,2	
	Antimony pentachloride, *liquid*	8	UN 1730	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Antimony pentachloride, *solutions*	8	UN 1731	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels
	Antimony pentafluoride	8	UN 1732	Corrosive, Poison	II	1	5	Keep dry
	Antimony potassium tartrate	6.1	UN 1551	St. Andrews Cross	III	1,2	1,2	
	Antimony trichloride, *liquid*	8	UN 1733	Corrosive	II	1	1	Keep dry
	Antimony trichloride, *solid*	8	UN 1733	Corrosive	II	1,2	1,2	Keep dry
	Argon, *compressed*	2.2	UN 1006	Nonflammable Gas	--	1,3	1,3	
	Argón, *liquid*	2.2	UN 2039	Nonflammable Gas	--	1,3	1,3	
	Arsenic acid, *liquid*	6.1	UN 1553	Poison	I	1,2	1,2	
	Arsenic acid, *solid*	6.1	UN 1554	Poison	II	1,2	1,2	
	Arsenic bromide	6.1	UN 1555	Poison	II	1,2	1,2	
	Arsenic chloride. *See* Arsenic trichloride							
	Arsenic compounds, *(liquid)*, n.o.s.	6.1 6.1	UN 1556	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Arsenic compounds, *(solid)*, n.o.s.	6.1 6.1	UN 1557	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	Keep dry.
	Arsenic, metallic	6.1	UN 1558	Poison	II	1,2	1,2	
	Arsenic pentoxide	6.1	UN 1559	Poison	II	1,2	1,2	
	Arsenic sulphides, *(solid)*, n.o.s. *See* Arsenic compounds, *(solid)*, n.o.s.							
	Arsenic trichloride	6.1	UN 1560	Poison	I	1,2	1,2	
	Arsenic trioxide	6.1	UN 1561	Poison	II	1,2	1,2	
	Arsenical dust	6.1	UN 1562	Poison	II	1,2	1,2	
	Arsenical flue dust. *See* Arsenical dust							
	Arsine	2.3	UN 2188	Poison Gas, Flammable Gas	--	1	5	Stow 'away from' living quarters
	Articles, explosive, n.o.s.	1.4B 1.4C 1.4D 1.4G 1.4S	UN 0350 UN 0351 UN 0352 UN 0353 UN 0349	Explosive (1.4B) Explosive (1.4C) Explosive (1.4D) Explosive (1.4G) None. Package to be marked '1.4S'	-- -- -- -- --	1,3 1,3 1,3 1,3 1,3	1,3 1,3 1,3 1,3 1,3	
	Asbestos, blue	9	UN 2212	None	II	1,2	1,2	
	Asbestos, white	9	UN 2590	None	III	1,2	1,2	
	Asphalt cut-backs. *See* Cut-backs, *asphalt or bitumen*							
	Bags, *(empty and unwashed), having contained* Potassium nitrate *or* sodium nitrate	4.1	UN 1359	Flammable Solid	III	1,2	5	
	Barium, *alloys, non-pyrophoric*	4.3	UN 1399	Dangerous When Wet	II	1,2	5	
	Barium alloys *pyrophoric*	4.2	UN 1854	Spontaneously Combustible	II	1	5	
	Barium azide, *containing at least 50% water or alcohol*	6.1	UN 1571	Poison	II	1,2	1,2	Stow 'away from' heavy metals
	Barium chlorate	5.1	UN 1445	Oxidizer, Poison	II	1,2	1,2	Stow 'away from' foodstuffs and powdered metals, 'separate from' Ammonium compounds
	Barium compounds, n.o.s.	6.1 6.1	UN 1564	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Barium cyanide	6.1	UN 1565	Poison	I	1,2	1,2	Stow 'away from' acids
	Barium, *metal, non-pyrophoric*	4.3	UN 1400	Dangerous When Wet	II	1,2	5	
	Barium nitrate	5.1	UN 1446	Oxidizer, Poison	II			
	Barium oxide	6.1	UN 1884	St. Andrews Cross	III	1,2	1,2	
	Barium perchlorate	5.1	UN 1447	Oxidizer, Poison	II	1,2	1,2	Stow 'away from' powdered metals and foodstuffs
	Barium permanganate	5.1	UN 1448	Oxidizer, Poison	II	1,2	1,2	Stow 'away from' foodstuffs and 'separate from' ammonium compounds and hydrogen peroxide
	Barium peroxide	5.1	UN 1449	Oxidizer, Poison	II	1,2	1,2	Keep dry. Stow 'away from' foodstuffs
	Batteries, *electric, storage, wet or filled*	8	UN 1734	Corrosive	III	1,2	1,2	
	Battery fluid, *acid*	8	UN 1735	Corrosive	II	1,2	1,2	Glass carboys in hampers prohibited under deck
	Battery fluid, *alkaline corrosive*	8	UN 1735	Corrosive	II	1,2	1,2	
	Battery fluid, *alkaline corrosive, with storage battery*	8	UN 1735	Corrosive	II	1,2	1,2	
	Benzaldehyde	3.3	UN 1990	Flammable Liquid	III	1,2	1,2	
	Benzene	3.2	UN 1114	Flammable Liquid	II	1,2	1	
	Benzene sulphonyl chloride	6.1	UN 2225	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids and alkalis
	Benzidine	6.1	UN 1885	Poison	II	1,2	1,2	
	Benzine	3.1 3.2 3.3	UN 1115 UN 1115 UN 1115	Flammable Liquid Flammable Liquid Flammable Liquid	II II II	1,2 1,2 1,2	5 1 1,2	
	Benzonitrile	6.1	UN 2224	Poison	II	1,2	1,2	Stow 'away from' acids
	Benzotrichloride	8	UN 2226	Corrosive	II	1,2	1,2	Stow 'away from' living quarters
	Benzoyl chloride	8	UN 1736	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Benzoyl peroxide, *in a concentration of more than 72% but less than 95% as a paste*	5.2	UN 2086	Organic Peroxide	I	1	5	

172.102 Optional Hazardous Materials Table (Cont'd)

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(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Benzoyl peroxide, *in a concentration of not more than 72% as a paste*	5.2	UN 2087	Organic Peroxide	II	1	5	
	Benzoyl peroxide, *in a concentration of not more than 55% as a paste*	5.2	UN 2087	Organic Peroxide	II	1	5	
	Benzoyl peroxide, *in a concentration of more than 80% but less than 95% with water*	5.2	UN 2088	Organic Peroxide	I	1	5	
	Benzoyl peroxide, *in a concentration of not more than 80% with water*	5.2	UN 2090	Organic Peroxide	II	1	5	
	Benzoyl peroxide, *in concentrations from 30% to maximum 52% with inert solid*	5.2	UN 2089	Organic Peroxide	II	1	5	
	Benzoyl peroxide, *technical pure or in a concentration of more than 52% with inert solid*	5.2	UN 2085	Organic Peroxide	I	1	5	
	Benzyl bromide	8	UN 1737	Corrosive	II	1	5	Keep dry
	Benzyl chloride	8	UN 1738	Corrosive	II	1	5	Keep dry. Stow 'separated longitudinally by an intervening complete compartment or hold from' explosives
	Benzyl chloroformate	8	UN 1739	Corrosive	I	1	5	Keep dry
	Benzyl cyanide, *liquid*	6.1	UN 2470	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Benzylidene chloride	6.1	UN 1886	Poison	II	1	5	
	Beryllium compounds	6.1	UN 1566	Poison	II	1,2	1,2	
	Beryllium, *metal powder*	6.1	UN 1567	Poison, Flammable Solid	II	1,2	1,2	Segregation same as for flammable solids
	Bhusa	4.1	UN 1327	None	III	1,2	1,2	Stow 'away from' animal or vegetable oils
	Bifluorides, n.o.s.	8	UN 1740	Corrosive	II	1,2	1,2	Keep dry
	Bis-(1-hydroxy cyclohexyl) peroxide, *technical pure*	5.2	UN 2148	Organic Peroxide	II	1	5	
	Bis-(2-methylbenzoyl)peroxide, *with at least 15% water*	5.2	UN 2593	Organic Peroxide	I	1	5	Maximum transport temperature 30 deg C
	1,4-Bis-(2-tert-butylperoxy isopropyl) benzene, *or* ,1,3-bis-(2-tert-butylperoxy isopropyl) benzene, *and mixtures thereof, (including technical pure or in a concentration of more than 40% with inert solid)*	5.2	UN 2112	Organic Peroxide	II	1	5	
	Bis-(3,5,5-trimethyl-1,2-dioxolanyl-3)peroxide, *as a paste with at least 50% phlegmatizer*	5.2	UN 2597	Organic Peroxide	II	1	5	Maximum transport temperature 30 deg C
	2,2-Bis-(4,4-di-tert-butylperoxy cyclohexyl) propane, *maximum concentration 42% with inert solid*	5.2	UN 2168	Organic Peroxide	II	1	5	
	Bis-(4-tert-butyl cyclohexyl) perdicarbonate, *technical pure*	5.2	UN 2154	Organic Peroxide	II	1	5	Maximum transport temperature 30 deg C
	1,1-Bis-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, *technical pure*	5.2	UN 2145	Organic Peroxide	II	1	5	
	1,1-Bis-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, *maximum concentration 57% in solvent*	5.2	UN 2146	Organic Peroxide	II	1	5	
	1,1-Bis-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, *maximum concentration 58% with inert solid*	5.2	UN 2147	Organic Peroxide	II	1	5	
	2,2-Bis-(tert-butylperoxy) butane, *maximum concentration 55% in solution*	5.2	UN 2111	Organic Peroxide	II	1	5	
	1,1-Bis-(tert-butylperoxy) cyclohexane, *technical pure*	5.2	UN 2179	Organic Peroxide	II	1	5	
	1,1-Bis-(tert-butylperoxy) cyclohexane, *maximum concentration 77% in solution*	5.2	UN 2180	Organic Peroxide	II	1	5	
	1,2-Bis-(tert-butylperoxy) cyclohexane, *maximum concentration 77% in solution*	5.2	UN 2181	Organic Peroxide	II	1	5	
	Blasting cap assemblies, non electric	1.4B	UN 0361	Explosive (1.4B)	–	1,3	1,3	
	Blasting caps, electric	1.4 B	UN 0255	Explosive (1.4B)	–	1,2	5	Portable magazine or metal locker. Do not handle blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps, non-electric	1.4 B	UN 0267	Explosive (1.4B)	–	1,2	5	Portable magazine or metal locker. Do not handle blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Bleaching powder. *See* Calcium hypochlorite mixtures, dry, *containing 39% or less, but more than 10% available chlorine*							
	Blue asbestos. *See* Asbestos, blue							
	Bombs, smoke, *containing a corrosive liquid, non-explosive, without initiating device*	8	UN 2028	Corrosive	II	1,2	5	Keep dry. Stow 'away from' living quarters
	Borate and chlorate, *mixtures*	5.1	UN 1458	Oxidizer	II	1,2	5	Stow 'away from' powdered metals and 'separate from' ammonium compounds
	Bordeaux arsenites, *liquid*	6.1	UN 1568	Poison	I	1,2	1,2	
	Bordeaux arsenites, *solid*	6.1	UN 1568	Poison	II	1,2	1,2	
	Borneol	4.1	UN 1312	None. Package to be marked 'Class 4.1'	III	1,2	1,2	
	Boron trichloride	2.3	UN 1741	Poison Gas, Corrosive	–	1	5	Shade from radiant heat. Stow 'away from' foodstuffs and living quarters
	Boron trifluoride	2.3	UN 1008	Poison Gas	–	1	5	Stow 'away from foodstuffs and living quarters
	Boron trifluoride acetic acid complex	8	UN 1742	Corrosive	II	1,2	1,2	
	Boron trifluoride propionic acid complex	8	UN 1743	Corrosive	II	1,2	1,2	
	Box toe gum. *See* Nitrocellulose							
	Brake fluid, hydraulic	3.2	UN 1118	Flammable Liquid	II	1,2	1	
	Bromates, *(inorganic)*, n.o.s.	5.1	UN 1450	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals and 'separate from' ammonium compounds
	Bromine, *(and solutions)*	8	UN 1744	Corrosive, Poison	I	1	5	Keep cool
	Bromine pentafluoride	8	UN 1745	Corrosive, Poison, Oxidizer	I	1	5	Shade from radiant heat. Stow 'away from' all other corrosives
	Bromine trifluoride	8	UN 1746	Corrosive, Poison	I	1	5	Shade from radiant heat
	1-Bromo-2,3-epoxypropane	6.1	UN 2558	Poison	I	1	5	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Bromoacetic acid, *solid*	8	UN 1938	Corrosive	II	1,2	1,2	Keep dry
	Bromoacetic acid, *solution*	8	UN 1938	Corrosive	II	1,2	1,2	Glass carboys in hampers not permitted under deck
	Bromoacetone	6.1	UN 1569	Poison	II	1	5	Segregation same as for flammable liquids
	Bromoacetyl bromide	8	UN 2513	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels
	Bromobenzyl cyanide	6.1	UN 1694	Poison	I	1	5	Keep cool
	Bromochloromethane	9	UN 1887	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Bromoform	6.1	UN 2515	St. Andrews Cross	III	1,2	1,2	
	Bromotrifluoromethane	2.2	UN 1009	Nonflammable Gas	--	1,2	1,2	
	Brucine	6.1	UN 1570	Poison	II	1,2	1,2	
	Butadiene, *inhibited*	2.1	UN 1010	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Butane *or butane mixtures*	2.1	UN 1011	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Butanol	3.3	UN 1120	Flammable Liquid	II	1,2	1,2	
	sec-Butanol	3.3	UN 1121	Flammable Liquid	II	1,2	1,2	
	tert-Butanol	3.2	UN 1122	Flammable Liquid	II	1,2	1	
	n-Butyl-4,4-bis-(tert-butyl-peroxy) valerate, *technical pure*	5.2	UN 2140	Organic Peroxide	II	1	5	
	n-Butyl-4,4-bis-(tert-butyl-peroxy) valerate, *maximum concentration 52% with inert solid*	5.2	UN 2141	Organic Peroxide	II	1	5	
	n-Butyl acetate	3.2	UN 1123	Flammable Liquid	II	1,2	1	
	sec-Butyl acetate	3.2	UN 1124	Flammable Liquid	II	1,2	1	
	Butyl alcohol. *See* Butanol							
	sec-Butyl alcohol. *See* sec-Butanol							
	tert-Butyl alcohol. *See* tert-Butanol							
	n-Butyl bromide	3.3	UN 1126	Flammable Liquid	II	1,2	1,2	
	n-Butyl chloride	3.2	UN 1127	Flammable Liquid	II	1,2	1	
	tert-Butyl cumene peroxide. *See* tert-Butyl cumyl peroxide							
	tert-Butyl cumyl peroxide, *technical pure*	5.2	UN 2091	Organic Peroxide	II	1	5	
	tert-Butyl diperoxyphthalate. *See* tert-Butyl diperphthalate							
	tert-Butyl diperphthalate, *maximum concentration 55% in solution*	5.2	UN 2107	Organic Peroxide	II	1	5	
	tert-Butyl diperphthalate, *maximum concentration 55% as a paste*	5.2	UN 2108	Organic Peroxide	II	1	5	
	tert-Butyl diperphthalate, *technical pure*	5.2	UN 2106	Organic Peroxide	II	1	5	
	Butyl ether. *See* Dibutyl ethers							
	n-Butyl formate	3.2	UN 1128	Flammable Liquid	II	1,2	1	
	tert-Butyl hydroperoxide, *in a concentration over 72% to maximum 90% with water*	5.2	UN 2094	Organic Peroxide	I	1	5	
	tert-Butyl hydroperoxide, *maximum concentration 72% with water*	5.2	UN 2093	Organic Peroxide	II	1	5	
	tert-Butyl hydroperoxide, *maximum concentration 80% in di-tert-butyl peroxide and/or solvent*	5.2	UN 2092	Organic Peroxide, Flammable Liquid (only if flashpoint of solvent is 23 deg C. or below)	I	1	5	
	tert-Butyl monoperoxyphthalate. *See* tert-Butyl monoperphthalate							
	tert-Butyl monoperphthalate, *technical pure*	5.2	UN 2105	Organic Peroxide	II	1	5	
	tert-Butyl per-(2-ethyl) hexanoate, *technical pure*	5.2	UN 2143	Organic Peroxide	II	1	5	Maximum transport temperature 20 deg C
	tert-Butyl per-neodecanoate, *maximum concentration 77% in solution*	5.2	UN 2177	Organic Peroxide	II	1	5	Maximum transport temperature 5 deg C
	tert-Butyl peracetate, *in a concentration of more than 52% to a maximum concentration of 76% in solution*	5.2	UN 2095	Organic Peroxide	II	1	5	
	tert-Butyl peracetate, *maximum concentration 52% in solution*	5.2	UN 2096	Organic Peroxide	II	1	5	
	tert-Butyl perbenzoate, *maximum concentration 75% in solution*	5.2	UN 2098	Organic Peroxide	II	1	5	
	tert-Butyl perbenzoate, *technical pure or in a concentration of more than 75% in solution*	5.2	UN 2097	Organic Peroxide	II	1	5	
	tert-Butyl percrotonate, *maximum concentration 76% in solution*	5.2	UN 2183	Organic Peroxide	II	1	5	
	n-Butyl perdicarbonate, *in a concentration of more than 27% to a maximum concentration of 52% in solution*	5.2	UN 2169	Organic Peroxide	II	1	5	Maximum transport temperature -10 deg C
	n-Butyl perdicarbonate, *maximum concentration 27% in solution*	5.2	UN 2170	Organic Peroxide	II	1	5	Maximum transport temperature 0 deg C
	tert-Butyl perdiethylacetate, *(in a maximum concentration of 33%)*, with tert-butyl perbenzoate, *(in a maximum concentration of 33%), and solvent*	5.2	UN 2551	Organic Peroxide	II	1	5	
	tert-Butyl perdiethylacetate, *technical pure*	5.2	UN 2144	Organic Peroxide	II	1	5	
	tert-Butyl perisobutyrate, *in a concentration of more than 52% to a maximum concentration of 77% in solution*	5.2	UN 2142	Organic Peroxide	II	1	5	Maximum transport temperature 15 deg C
	tert-Butyl perisobutyrate, *maximum concentration 52% in solution*	5.2	UN 2562	Organic Peroxide	II	1	5	Maximum transport temperature 15 deg C
	tert-Butyl permaleate, *maximum concentration 55% in solution*	5.2	UN 2100	Organic Peroxide	II	1	5	
	tert-Butyl permaleate, *maximum concentration 55% as a paste*	5.2	UN 2101	Organic Peroxide	II	1	5	
	tert-Butyl permaleate, *technical pure*	5.2	UN 2099	Organic Peroxide	II	1	5	
	tert-Butyl peroxide, *technical pure*	5.2	UN 2102	Organic Peroxide, Flammable Liquid	II	1	5	
	tert-Butyl peroxy-(2-ethyl) hexanoate. *See* tert-Butyl per-(2-ethyl) hexanoate							
	tert-Butyl peroxy-3,5,5-trimethyl hexanoate, *technical pure*	5.2	UN 2104	Organic Peroxide	II	1	5	
	tert-Butyl peroxy isopropyl carbonate, *technical pure*	5.2	UN 2103	Organic Peroxide	II	1	5	
	tert-Butyl peroxy-neodecanoate. *See* tert-Butyl per-neodecanoate							
	tert-Butyl peroxyacetate. *See* tert-Butyl peracetate							
	tert-Butyl peroxybenzoate. *See* tert-Butyl perbenzoate							
	tert-Butyl peroxycrotonate. *See* tert-Butyl percrotonate							
	n-Butyl peroxydicarbonate. *See* n-Butyl perdicarbonate							

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	tert-Butyl peroxydiethylacetate. *See* tert-Butyl perdiethylacetate							
	tert-Butyl peroxydiethylacetate with tert-butyl peroxybenzoate. *See* tert-Butyl perdiethylacetate with tert-butyl perbenzoate							
	tert-Butyl peroxyisobutyrate. *See* tert-Butyl perisobutyrate							
	tert-Butyl peroxymaleate. *See* tert-Butyl permaleate							
	tert-Butyl peroxypivalate. *See* tert-Butyl perpivalate							
	tert-Butyl perpivalate, *maximum concentration 77% in solution*	5.2	UN 2110	Organic Peroxide	II	1	5	Maximum transport temperature 0 deg C
	Butyl phosphoric acid. *See* Acid butyl phosphate							
	Butyl propionate	3.3	UN 1914	Flammable Liquid	II	1,2	1,2	
	Butyl trichlorosilane	8	UN 1747	Corrosive	II	1	1	Keep dry. Stow 'separated longitudinally by an intervening complete compartment or hold from' explosives
	n-Butylamine	3.2	UN 1125	Flammable Liquid	II	1,2	1	
	Butylene	2.1	UN 1012	Flammable Gas	--	1,2	1	Stow 'away from living quarters
	tert-Butylperneodecanoate, *technical pure*	5.2	UN 2594	Organic Peroxide	II	1	5	Maximum transport temperature -5 deg C
	3-tert-Butylperoxy-3-phenyl phthalide, *technical pure*	5.2	UN 2596	Organic Peroxide	II	1	5	
	Butylphenols, *liquid*	6.1	UN 2228	St. Andrews Cross	III	1,2	1,2	
	Butylphenols, *solid*	6.1	UN 2229	St. Andrews Cross	III	1,2	1,2	
	Butyraldehyde	3.2	UN 1129	Flammable Liquid	II	1,2	1	
	Cacodylic acid	6.1	UN 1572	Poison	II	1,2	5	Stow 'away from' acids
	Cadmium compounds	6.1	UN 2570	St. Andrews Cross	III	1,2	1,2	
	Caesium, *metal*	4.3	UN 1407	Dangerous When Wet	I	1,2	5	
	Caesium nitrate	5.1	UN 1451	Oxidizer	III	1,2	1,2	
	Caesium, *powdered*. *See* Pyrophoric metals							
	Calcium arsenate	6.1	UN 1573	Poison	II	1,2	1,2	
	Calcium arsenate and arsenite, *solid mixtures*	6.1	UN 1574	Poison	II	1,2	1,2	
	Calcium bisulphite, *solution*. *See* Calcium hydrogen sulphite, *solution*							
	Calcium carbide	4.3	UN 1402	Dangerous When Wet	II	1,2	1,2	Stow 'away from' copper, its alloys and its salts
	Calcium chlorate	5.1	UN 1452	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals and 'separate from' ammonium compounds
	Calcium chlorite	5.1	UN 1453	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals and cyanides, 'separate from' ammonium compounds
	Calcium cyanamide, *containing more than 0.1% of calcium carbide*	4.3	UN 1403	Dangerous When Wet	III	1,2	1,2	
	Calcium cyanide	6.1	UN 1575	Poison	I	1,2	1,2	Stow 'away from' acids
	Calcium dithionite	4.2	UN 1923	Spontaneously Combustible	III	1,2	5	Keep dry
	Calcium hydride	4.3	UN 1404	Dangerous When Wet	I	1,2	5	
	Calcium hydrogen sulphite, *solution*	8	UN 1901	Corrosive	II	1,2	1,2	
	Calcium hypochlorite, *dry, including mixtures containing more than 39% available chlorine (8.8% available oxygen)*	5.1	UN 1748	Oxidizer	II	1,2	1,2	
	Calcium hypochlorite mixtures, *dry containing 39% or less, but not more than 10% available chlorine*	9	UN 2208	None	III	1,2	1,2	Stow 'separate from' flammable liquids and acids, 'away from' combustible materials
	Calcium, *metal and alloys, non-pyrophoric*	4.3	UN 1401	Dangerous When Wet	II	1,2	5	
	Calcium nitrate	5.1	UN 1454	Oxidizer	III	1,2	1,2	
	Calcium perchlorate	5.1	UN 1455	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals
	Calcium permanganate	5.1	UN 1456	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and hydrogen peroxide
	Calcium peroxide	5.1	UN 1457	Oxidizer	II	1,2	1,2	Keep dry
	Calcium phosphide	4.3	UN 1360	Dangerous When Wet	I	1	5	
	Calcium, *powdered*	4.2	UN 1855	Spontaneously Combustible	II	1	5	
	Calcium resinate, *fused*	4.1	UN 1314	Flammable Solid	III	1,2	1,2	
	Calcium resinate, *technical pure*	4.1	UN 1313	Flammable Solid	III	1,2	1,2	
	Calcium silicide	4.3	UN 1405	Dangerous When Wet	II	1,2	1,2	
	Calcium silicon	4.3	UN 1406	Dangerous When Wet	III	1,2	1,2	
	Camphor oil	3.3	UN 1130	Flammable Liquid	III	1,3	1,3	
	Capryloyl peroxide. *See* n-Octanoyl peroxide							
	Caps, blasting. *See* Blasting caps							
	Caps, percussion	1.4 S	UN 0044	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Caps, toy. *See* Amorces							
	Carbolic acid. *See* Phenol							
	Carbon, activated	4.2	UN 1362	Spontaneously Combustible	III	1,2	1,2	Keep cool
	Carbon bisulphide. *See* Carbon disulphide							
	Carbon dioxide	2.2	UN 1013	Nonflammable Gas	--	1,2	1,2	
	Carbon dioxide and nitrous oxide, *mixtures*	2.2	UN 1015	Nonflammable Gas	--	1,2	1,2	
	Carbon dioxide and oxygen, *mixtures*	2.2	UN 1014	Nonflammable Gas	--	1,2	1,2	
	Carbon disulphide	3.1	UN 1131	Flammable Liquid, Poison	I	1	5	Keep cool. Not permitted on any vessel carrying explosives
	Carbon monoxide	2.1	UN 1016	Flammable Gas, Poison Gas	--	1	5	Stow 'away from' living quarters
	Carbon, non-activated, *of animal or vegetable origin*	4.2	UN 1361	Spontaneously Combustible	III	1,2	1,2	Keep cool. Stow 'away from' oily matter

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Carbon paper. See Paper, *treated with unsaturated oils, incompletely dried*							
	Carbon remover, *liquid*	3.2	UN 1132	Flammable Liquid	II	1,2	1	
	Carbon sulphide. *See* Carbon disulphide							
	Carbon tetrabromide	6.1	UN 2516	St. Andrews Cross	III	1,2	1,2	Shade from radiant heat
	Carbon tetrachloride	6.1	UN 1846	Poison	II	1,2	1,2	
	Carbonyl chloride. See Phosgene							
	Carbonyl fluoride	2.3	UN 2417	Poison Gas	–	1	5	Stow 'away from' living quarters
	Carbonyl sulfide	2.3	UN 2204	Poison Gas, Flammable Gas	–	1	5	Stow 'away from' living quarters
N	Cartouche	2.1	UN 2037	Flammable Gas	–			
	Cartridge cases, empty, with primer. *See* Cases, cartridges, empty, with primer							
	Cartridges for weapons, blank	1.4 C 1.4 S	UN 0338 UN 0014	Explosive (1.4C) None. Package to be marked '1.4 S'	– –	1,3 1,3	1,3 1,3	
	Cartridges for weapons, *other than blank*	1.4 S	UN 0012	None. Package to be marked '1.4 S'	–	1,3	1,3	
	Cartridges for weapons, with inert projectile	1.4 C	UN 0339	Explosive (1.4C)	–	1,3	1,3	
	Cartridges, oil well	1.4 C	UN 0278	Explosive (1.4C)	–	1,3	1,3	
	Cartridges, power device	1.4 C 1.4 S	UN 0276 UN 0323	Explosive (1.4C) None. Package to be marked '1.4 S'	– –	1,3 1,3	1,3 1,3	
	Cartridges, signal	1.4 G	UN 0312	Explosive (1.4G)	–	1,3	1,3	
	Cases, cartridge, empty, with primer	1.4C	UN 0379	Explosive (1.4C)	–	1,3	1,3	
	Cases, cartridges, empty, with primer	1.4 S	UN 0055	None. Package to be marked '1.4 S'	–	1,3	1,3	
	Casinghead gasoline	3.1	UN 1257	Flammable Liquid	II	1,2	5	
	Caustic alkali liquids, n.o.s.	8	UN 1719	Corrosive	II	1,2	1,2	
	Caustic potash. *See* Potassium hydroxide, *solution*							
	Caustic potash, solid. *See* Potassium hydroxide, *solid*							
	Celluloid, *in blocks, rods, rolls, sheets, tubes, etc. (scrap excluded)*	4.1	UN 2000	Flammable Solid	III	1,2	1,2	
	Celluloid, *scrap*	4.2	UN 2002	Spontaneously Combustible	II	1	5	
	Cement, adhesive, *(containing a flammable liquid)*, n.o.s.	3.2 3.3	UN 1133 UN 1133	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Cement, *(liquid)*, n.o.s.. *See* Cement, adhesive, *(containing a flammable liquid)*, n.o.s.							
	Charcoal, activated. *See* Carbon, activated							
	Charcoal, non-activated, of animal or vegetable origin. See Carbon, non-activated							
	Charges, shaped, flexible, linear, *metal clad*	1.4 D	UN 0237	Explosive (1.4D)	–	1,3	1,3	
	Chloral, *anhydrous, inhibited*	6.1	UN 2075	Poison	II	1	5	
	Chlorate and borate, mixtures. See Borate and chlorate *mixtures*							
	Chlorate and magnesium chloride, *mixtures*	5.1	UN 1459	Oxidizer	II	1,2	5	Stow 'away from' powdered metals and 'separate from' ammonium compounds
	Chlorates, *(inorganic)*, n.o.s.	5.1	UN 1461	Oxidizer	II	1,2	5	Stow 'away from' powdered metals and 'separate from' ammonium compounds
	Chlorinated anthracene oil	6.1	UN 2230	Poison	II	1,3	1,3	Stow 'away from' sources of heat. Segregation same as for flammable liquids
	Chlorine	2.3	UN 1017	Poison Gas, Oxidizer	–	1	5	Stow 'away from' living quarters and organic materials, 'separate from' acetylene, ammonia, diborane and hydrogen
	Chlorine trifluoride	2.3	UN 1749	Poison Gas, Oxidizer, Corrosive	–	1,2	5	Stow 'away from' food stuffs and living quarters
	Chlorites, *(inorganic)*, n.o.s.	5.1	UN 1462	Oxidizer	II	1,2	5	Stow 'away from' powdered metals and cyanides, 'separate from' ammonium compounds
	3-Chloro-4-methylphenyl isocyanate	6.1	UN 2236	Poison	II	1,2	1,2	Shade from radiant heat
	p-Chloro-o-anisidine	6.1	UN 2233	St. Andrews Cross	III	1,2	1,2	
	Chloro-o-nitrotoluene	6.1	UN 2433	St. Andrews Cross	III	1,2	1,2	
	4-Chloro-o-toluidine hydrochloride	6.1	UN 1579	St. Andrews Cross	III	1,2	1,2	
	Chloroacetaldehyde	6.1	UN 2232	Poison	II	1	5	
	Chloroacetic acid, *liquid*	8	UN 1750	Corrosive	II	1,2	1,2	Glass carboys in hampers not permitted under deck
	Chloroacetic acid, *solid*	8	UN 1751	Corrosive	II	1,2	1,2	Keep dry
	Chloroacetone, *stabilized*	6.1	UN 1695	Poison	II	1	5	
	Chloroacetophenone	6.1	UN 1697	Poison	II	1	5	
	Chloroacetyl chloride	8	UN 1752	Corrosive	II	1	5	Keep dry
	Chloroanilines, *liquid*	6.1	UN 2019	Poison	II	1,2	1,2	
	Chloroanilines, *solid*	6.1	UN 2018	Poison	II	1,2	1,2	
	Chlorobenzene	3.3	UN 1134	Flammable Liquid	II	1,3	1,3	
	p-Chlorobenzoyl peroxide, *maximum concentration 75% with water*	5.2	UN 2113	Organic Peroxide	II	1	5	
	p-Chlorobenzoyl peroxide, *maximum concentration 52% as a paste*	5.2	UN 2114	Organic Peroxide	II	1	5	
	p-Chlorobenzoyl peroxide, *maximum concentration 52% in solution*	5.2	UN 2115	Organic Peroxide	II	1	5	
	p-Chlorobenzyl chloride	6.1	UN 2235	St. Andrews Cross	III	1,2	1,2	
	Chlorodifluorobromomethane	2.2	UN 1974	Nonflammable Gas	–	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

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(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Chlorodifluoromethane	2.2	UN 1018	Nonflammable Gas	--	1,2	1,2	
	Chlorodifluoromethane and chloropentafluoroethane, *mixture with a fixed boiling point containing about 49% of chlorodifluoromethane*	2.2	UN 1973	Nonflammable Gas	--	1,2	1,2	
	Chlorodinitrobenzene	6.1	UN 1577	Poison	II	1,2	1,2	
	2-Chloroethanol	3.3	UN 1135	Flammable Liquid	II	1,2	1,2	
	Chloroform	6.1	UN 1888	Poison	II	1,2	1,2	
	Chloronitroanilines	6.1	UN 2237	St. Andrews Cross	III	1,2	1,2	
	Chloronitrobenzenes *(o-, m-, p-)*	6.1	UN 1578	Poison	II	1,2	1,2	
	Chloropentafluoroethane	2.2	UN 1020	Nonflammable Gas	--	1,2	1,2	
	m-Chloroperoxybenzoic acid, *maximum concentration 86%*	5.2	UN 2755	Organic Peroxide	II	1	5	
	Chlorophenates, *liquid*	6.1	UN 2021	St. Andrews Cross	III	1,2	1,2	
	Chlorophenates, *solid*	6.1	UN 2020	St. Andrews Cross	III	1,2	1,2	
	Chlorophenols, *liquid*	6.1	UN 2021	St. Andrews Cross	III	1,2	1,2	
	Chlorophenols, *solid*	6.1	UN 2020	St. Andrews Cross	III	1,2	1,2	
	Chlorophenyl trichlorosilane	8	UN 1753	Corrosive	II	1	1	Keep dry
	Chloropicrin	6.1	UN 1580	Poison	I	1	5	
	Chloropicrin and methyl bromide, *mixtures*	6.1	UN 1581	Poison	--	1	5	Shade from radiant heat
	Chloropicrin and methyl chloride, *mixtures*	6.1	UN 1582	Poison	--	1	5	
	Chloropicrin mixtures, n.o.s.	6.1	UN 1583	Poison	I/II	1	5	
		6.1		St. Andrews Cross	III	1,2	1,2	
	Chloroplatinic acid, *solid*	8	UN 2507	Corrosive	III	1,2	1,2	
	Chloroprene, *inhibited*	3.2	UN 1991	Flammable Liquid	I	1,2	1	
	Chloropropionic acid	8	UN 2511	Corrosive	III	1,2	1,2	Glass carboys prohibited on passenger vessels
	Chlorosulphonic acid, *with or without sulphur trioxide*	8	UN 1754	Corrosive	I	1	1	Glass carboys prohibited on passenger vessels
	Chlorotetrafluoroethane	2.2	UN 1021	Nonflammable Gas	--	1,2	1,2	
	Chlorotoluidines	6.1	UN 2239	St. Andrews Cross	III	1,2	1,2	
	Chlorotrifluoroethane. See Trifluorochloroethane							
	Chlorotrifluoroethylene. See Trifluorochloroethylene							
	Chlorotrifluoromethane	2.2	UN 1022	Nonflammable Gas	--	1,2	1,2	
	Chromic acid, *solid. See* Chromium trioxide, *anhydrous*							
	Chromic acid, *solution*	8	UN 1755	Corrosive	II	1	1	
	Chromic anhydride. *See* Chromium trioxide, *anhydrous*							
	Chromic fluoride, *solid*	8	UN 1756	Corrosive	II	1,2	1,2	
	Chromic fluoride, *solution*	8	UN 1757	Corrosive	II	1,2	1,2	
	Chromium oxychloride	8	UN 1758	Corrosive	I	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Chromium trioxide, *anhydrous*	5.1	UN 1463	Oxidizer, Corrosive	II	1,2	1,2	Stow 'away from' foodstuffs
	Chromosulphuric acid	8	UN 2240	Corrosive	I	1,2	1	Carboys not permitted on passenger vessels and permitted only on deck on cargo vessels
	Chrysotile. See Asbestos, white							
	Cigarettes, *self-lighting*	4.1	UN 1867	Flammable Solid	III	1,2	1,2	Keep dry
	Cleaning compound. *See* Flammable liquid preparations, n.o.s.							
	Cleaning compounds, *liquid, corrosive*	8	UN 1759	Corrosive	II	1,2	1,2	
	Coal gas	2.1	UN 1023	Flammable Gas, Poison Gas	--	1	5	Stow 'away from' living quarters
	Coal tar distillate	3.2	UN 1136	Flammable Liquid	--	1,2	1	
		3.3	UN 1136	Flammable Liquid	--	1,2	1,2	
	Coal tar light oil	3.2	UN 1137	Flammable Liquid	--	1,2	1	
		3.3	UN 1137	Flammable Liquid	--	1,2	1,2	
	Coal tar naphtha	3.2	UN 2553	Flammable Liquid	II	1,2	1	
	Coal tar oil. *See* Coal tar distillate							
	Coating solution	3.2	UN 1139	Flammable Liquid	II	1,2	1	
		3.3	UN 1139	Flammable Liquid	II	1,2	1,2	
	Cobalt naphthenates, *powder*	4.1	UN 2001	Flammable Solid	III	1,2	1,2	
	Cobalt resinate, *precipitated*	4.1	UN 1318	Flammable Solid	III	1,2	1,2	
	Cocculus, *solid*	6.1	UN 1584	Poison	II	1,2	1,2	
	Cologne spirits. *See* Ethanol							
	Columbian spirits. *See* Methanol							
	Components, explosive train, n.o.s.	1.4B	UN 0383	Explosive (1.4B)	--	1,3	1,3	
		1.4S	UN 0384	None. Package to be marked '1.4S'	--	1,3	1,3	
	Compressed or liquefied gases, *(flammable, non-toxic)*, n.o.s.	2.1	UN 1954	Flammable Gas	--	1	5	Stow 'away from' living quarters
	Compressed or liquefied gases, *(flammable, toxic)*, n.o.s.	2.1	UN 1953	Flammable Gas, Poison Gas	--	1	5	Stow 'away from' living quarters
	Compressed or liquefied gases, *(non-flammable, non-toxic)*, n.o.s.	2.2	UN 1956	Nonflammable Gas	--	1,2	1,2	
	Compressed or liquefied gases, *(non-flammable, toxic)*, n.o.s.	2.3	UN 1955	Poison Gas	--	1	5	Stow 'away from' living quarters
	Copper acetoarsenite	6.1	UN 1585	Poison	II	1,2	1,2	
	Copper arsenite	6.1	UN 1586	Poison	II	1,2	1,2	
	Copper cyanide	6.1	UN 1587	Poison	II	1,2	1,2	Stow 'away from' acids
	Copra	4.2	UN 1363	None. Package to be marked 'Class 4.2'	III	1,2	1,2	Keep dry. Protect from sparks and open flame
	Cord, detonating, *flexible*	1.4 D	UN 0289	Explosive (1.4D)	--	1,3	1,3	
	Cord, detonating, mild effect, *metal clad*	1.4 D	UN 0104	Explosive (1.4D)	--	1,3	1,3	
	Cord, igniter	1.4 G	UN 0066	Explosive (1.4G)	--	1,3	1,3	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Corrosive liquids, n.o.s.	8	UN 1760	Corrosive	II	1	4	
	Corrosive solids, n.o.s.	8	UN 1759	Corrosive	I/II/III	1	5	
	Cosmetics, n.o.s. *See* Perfumery products							
	Cotton, dry. *See* Fibres, *vegetable, dry*							
	Cotton waste, *oily*	4.2	UN 1364	Spontaneously Combustible	III	1,2	1,2	Keep dry. Stow 'separate from' explosives, animal oils or vegetable oils
	Cotton, *wet or contaminated*	4.2	UN 1365	Spontaneously Combustible	III	1,2	1,2	Keep dry
	Cresols *(o-, m-, p-)*	6.1	UN 2076	Poison	II	1,2	1,2	
	Cresylic acid	6.1	UN 2022	Poison	II	1,2	1,2	
	Crocidolite. *See* Asbestos, blue							
	Crotonaldehyde, *inhibited*	3.2	UN 1143	Flammable Liquid	I	1,2	1	
	Crotonylene	3.1	UN 1144	Flammable Liquid	I	1,2	5	Keep cool
	Cumene hydroperoxide, *technical pure*	5.2	UN 2116	Organic Peroxide	I	1	5	
	Cupric cyanide. See Copper cyanide							
	Cupriethylenediamine, *solution*	8	UN 1761	Corrosive, Poison	II	1,2	1,2	
	Cut-backs, *asphalt or bitumen*	3.2	UN 1999	Flammable Liquid	II	1,2	1	
		3.3	UN 1999	Flammable Liquid	II	1,2	1,2	
	Cutters, cable, explosive	1.4 S	UN 0070	None. Package to be marked '1.4 S'	–	1,3	1,3	
	Cyanide mixtures. *See* Cyanides, *(inorganic)*, n.o.s.							
	Cyanides, *(inorganic)*, n.o.s.	6.1	UN 1588	Poison	I/II	1,2	1,2	Stow 'away from' acids.
		6.1		St. Andrews Cross	III	1,2	1,2	
	Cyanides, *solutions*	6.1	UN 1935	Poison	I	1,2	1,2	Stow 'away from' acids
	Cyanogen	2.3	UN 1026	Poison Gas, Flammable Gas	–	1	5	Stow 'away from' foodstuffs and living quarters.
	Cyanogen bromide	6.1	UN 1889	Poison, Corrosive	I	1	5	Shade from radiant heat. Segregation same as for corrosives
	Cyanogen chloride, *inhibited*	2.3	UN 1589	Poison Gas	–	1	5	
	Cyanuric chloride (*cyanuric trichloride*)	8	UN 2670	Corrosive	II	1,2	1,2	Keep dry
	1,5,9-Cyclododecatriene	8	UN 2518	Corrosive	III	1	5	Stow 'away from' living quarters
	Cyclohexane	3.1	UN 1145	Flammable Liquid	II	1,2	5	
	Cyclohexanone	3.3	UN 1915	Flammable Liquid	III	1,2	1,2	
	Cyclohexanone peroxide. *See* 1-Hydroxy-1'-hydroperoxy dicyclohexyl peroxide *and mixtures, etc.*							
	Cyclohexenyl trichlorosilane	8	UN 1762	Corrosive	II	1	1	Keep dry
	Cyclohexyl isocyanate	6.1	UN 2488	Poison	II	1	5	Shade from radiant heat. Stow 'away from' sources of heat
	Cyclohexyl trichlorosilane	8	UN 1763	Corrosive	II	1	1	Keep dry
	Cyclopentane	3.1	UN 1146	Flammable Liquid	II	1,2	5	
	Cyclopropane	2.1	UN 1027	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	p-Cymene	3.3	UN 2046	Flammable Liquid	II	1,2	1,2	
	Decaborane	4.1	UN 1868	Flammable Solid, Poison	II	1,2	1,2	
	Decahydronaphthalene	3.3	UN 1147	Flammable Liquid	II	1,2	1,2	
	Decalin. See Decahydronaphthalene							
	Decanoyl peroxide, *technical pure*	5.2	UN 2120	Organic Peroxide	II	1	5	Maximum transport temperature 15 deg C
	Detonators for ammunition	1.4B	UN 0365	Explosive (1.4B)	–	1,3	1,3	
		1.4S	UN 0366	None. Package to be marked '1.4S'	–	1,3	1,3	
	Deuterium	2.1	UN 1957	Flammable Gas	–	1,2	5	Stow 'away from' living quarters
	Di-(2-ethylhexyl) perdicarbonate, *technical pure*	5.2	UN 2122	Organic Peroxide	II	1	5	Maximum transport temperature -20 deg C
	Di-(2-ethylhexyl) perdicarbonate, *maximum concentration 67% in solution*	5.2	UN 2123	Organic Peroxide	II	1	5	Maximum transport temperature -15 deg C
	Di-(2-ethylhexyl) peroxydicarbonate. *See* Di-(2-ethylhexyl) perdicarbonate							
	Di-(n-butyl)amine	8	UN 2248	Corrosive, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids
	Di-n-propyl perdicarbonate. *See* Di-n-propyl peroxydicarbonate							
	Di-n-propyl peroxydicarbonate, *technical pure*	5.2	UN 2176	Organic Peroxide	I	1	5	Maximum transport temperature -25 deg C
	Di-sec-butyl perdicarbonate, *maximum concentration 52% in solution*	5.2	UN 2151	Organic Peroxide	II	1	5	Maximum transport temperature -10 deg C
	Di-sec-butyl perdicarbonate, *technical pure*	5.2	UN 2150	Organic Peroxide	I	1	5	Maximum transport temperature -20 deg C
	Di-sec-butyl peroxydicarbonate. *See* Di-sec-butyl perdicarbonate							
	Diacetone alchohol	3.2	UN 1148	Flammable Liquid	II	1,2	1	
		3.3	UN 1148	Flammable Liquid	II/III	1,2	1,2	
	Diacetone alcohol peroxides, *maximum 57% in solution with maximum 9% hydrogen peroxide, minimum 26% diacetone alcohol and minimum 9% water; total active oxygen content maximum 10%*	5.2	UN 2163	Organic Peroxide	I	1	5	Maximum transport temperature 25 deg C
	Dibenzyl perdicarbonate, *maximum concentration 87% with water*	5.2	UN 2149	Organic Peroxide	I	1	5	Maximum transport temperature 25 deg C
	Dibenzyl peroxydicarbonate. *See* Dibenzyl perdicarbonate							
	Dibenzyldichlorosilane	8	UN 2434	Corrosive	II	1	1	Keep dry.
	Diborane	2.1	UN 1911	Flammable Gas, Poison Gas	–	1	5	Stow 'away from' foodstuffs and living quarters, 'separated from' chlorine
	Dibutyl ethers	3.3	UN 1149	Flammable Liquid	III	1,2	1,2	
	Dicetyl perdicarbonate, *technical pure*	5.2	UN 2164	Organic Peroxide	II	1	5	Maximum transport temperature 20 deg C
	Dicetyl peroxydicarbonate. *See* Dicetyl perdicarbonate							

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Dichloroacetic acid	8	UN 1764	Corrosive	II	1,2	1,2	Glass carboy in hampers not permitted under deck
	Dichloroacetyl chloride	8	UN 1754	Corrosive	II	1	5	Keep dry
	Dichloroanilines	6.1	UN 1590	Poison	II	1,2	1,2	Stow 'away from' acids
	p-Dichlorobenzene	9	UN 1592	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Dichlorobenzenes *(o-, m-)*	6.1	UN 1591	St. Andrews Cross	III	1,2	1,2	
	2,4-Dichlorobenzoyl peroxide, *maximum concentration 75% with water*	5.2	UN 2137	Organic Peroxide	II	1	5	
	2,4-Dichlorobenzoyl peroxide, *maximum concentration 52% as a paste*	5.2	UN 2138	Organic Peroxide	II	1	5	
	2,4-Dichlorobenzoyl peroxide, *maximum concentration 52% in solution*	5.2	UN 2139	Organic Peroxide	II	1	5	
	Dichlorodifluoromethane	2.2	UN 1028	Nonflammable Gas	--	1,2	1,2	
	sym-Dichlorodimethyl ether	6.1	UN 2249	Poison	I	1	5	
	Dichloroethyl ether	3.3	UN 1916	Flammable Liquid, Poison	II	1,2	1,2	
	Dichloroethylene	3.2	UN 1150	Flammable Liquid	II	1,2	1	
	Dichloroisopropyl ether	6.1	UN 2490	Poison	II	1,2	1	
	Dichloromethane	6.1	UN 1593	St. Andrews Cross	III	1,2	1,2	
	Dichloromonofluoromethane	2.2	UN 1029	Nonflammable Gas	--	1,2	1,2	
	Dichloropentanes	3.3	UN 1152	Flammable Liquid	II	1,2	1,2	
	Dichlorophenyl isocyanates	6.1	UN 2250	Poison	II	1,3	1,3	Shade from radiant heat. Stow 'away from' sources of heat
	Dichlorophenyl trichlorosilane	8	UN 1766	Corrosive	II	1	1	Keep dry
	Dichloropropene	3.3	UN 2047	Flammable Liquid	II	1,2	1,2	
	Dichlorosilane	2.3	UN 2189	Poison Gas, Flammable Gas	--	1	5	Stow 'away from' living quarters
	Dichlorotetrafluoroethane	2.2	UN 1958	Nonflammable Gas	--	1,2	1,2	
	Dichromates, *(inorganic)*, n.o.s.	5.1	UN 1464	Oxidizer	II	1,2	1,2	Stow 'away from' foodstuffs
	Dicumyl peroxide, *technical pure or in a mixture with inert solid*	5.2	UN 2121	Organic Peroxide	II	1	5	
	Dicyclohexyl perdicarbonate, *maximum concentration 91% with water*	5.2	UN 2153	Organic Peroxide	I	1	5	Maximum transport temperature 5 deg C
	Dicyclohexyl perdicarbonate, *technical pure*	5.2	UN 2152	Organic Peroxide	I	1	5	Maximum transport temperature 5 deg C
	Dicyclohexyl peroxydicarbonate. *See* Dicyclohexyl perdicarbonate							
	Dicyclohexylamine	8	UN 2565	Corrosive	III	1	5	Keep dry
	Dicyclopentadiene	3.3	UN 2048	Flammable Liquid	II	1,2	1,2	
	Didymium nitrate	5.1	UN 1465	Oxidizer	III	1,2	1,2	
	1,2-Diethoxyethane	3.3	UN 1153	Flammable Liquid	III	1,2	1,2	
	Diethyl dichlorosilane	8	UN 1767	Corrosive	II	1	1	Keep dry. Separate longitudinally by an intervening compartment or hold from explosives
	Diethyl ether	3.1	UN 1155	Flammable Liquid	I	1,2	5	Keep cool
	Diethyl ketone	3.2	UN 1156	Flammable Liquid	II	1,2	1	
	Diethyl-p-nitroaniline	4.2	--	Spontaneously Combustible	--	1,2	5	
	Diethyl perdicarbonate, *maximum concentration 27% in solution*	5.2	UN 2175	Organic Peroxide	II	1	5	Maximum transport temperature -10 deg C
	Diethyl peroxydicarbonate. *See* Diethyl perdicarbonate							
	Diethyl sulphate	6.1	UN 1594	Poison	II	1	1	
	Diethylaluminium chloride	4.2	UN 1101	Spontaneously Combustible	I	1	1	
	Diethylamine	3.1	UN 1154	Flammable Liquid	II	1,2	5	Keep cool
	N,N-Diethylaniline	6.1	UN 2432	St. Andrews Cross	III	1,2	1,2	
	Diethylbenzene	3.3	UN 2049	Flammable Liquid	II	1,2	1,2	
	Diethylenetriamine	8	UN 2079	Corrosive	II	1,2	1,2	Stow 'away from' acids, copper and copper alloys, and living quarters; 'separate from' nitric acid
	Diethylmagnesium	4.2	UN 1367	Spontaneously Combustible	I	1	5	Prohibited on any ship carrying explosives
	Diethylzinc	4.2	UN 1366	Spontaneously Combustible	I	1	5	Prohibited on any ship carrying explosives
	1,1-Difluoroethane	2.1	UN 1030	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	1,1-Difluoroethylene	2.1	UN 1959	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Difluoromonochloroethane	2.1	UN 1031	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Difluorophosphoric acid, *anhydrous*	8	UN 1768	Corrosive	II	1,2	1,2	
	2,2-Dihydroperoxy propane, *maximum concentration 25% with inert organic solid*	5.2	UN 2178	Organic Peroxide	II	1	5	
	Diisobutyl ketone	3.3	UN 1157	Flammable Liquid	III	1,2	1,2	
	Diisobutylene, *(isomeric compounds)*	3.2	UN 2050	Flammable Liquid	II	1,2	1	
	Diisooctyl acid phosphate	8	UN 1902	Corrosive	III	1,2	1,2	Glass carboys in hampers not permitted under deck
	Diisopropyl ether	3.1	UN 1159	Flammable Liquid	II	1,2	5	Keep cool
	Diisopropyl perdicarbonate, *technical pure*	5.2	UN 2133	Organic Peroxide	II	1	5	Maximum transport temperature -15 deg C
	Diisopropyl perdicarbonate, *maximum concentration 52% in solution*	5.2	UN 2134	Organic Peroxide	II	1	5	Maximum transport temperature -10 deg C
	Diisopropylamine	3.2	UN 1158	Flammable Liquid	II	1,2	1	
	Diisopropylbenzene hydroperoxide, *maximum concentration 72% in solution*	5.2	UN 2171	Organic Peroxide	I	1	5	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	2,5-Dimethyl-2,5-bis-(2-ethylhexanoylperoxy) hexane, *technical pure*	5.2	UN 2157	Organic Peroxide	II	1	5	Maximum transport temperature 20 deg C
	2,5-Dimethyl-2,5-bis-(benzoylperoxy) hexane, *technical pure*	5.2	UN 2172	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-bis-(benzoylperoxy) hexane, *maximum concentration 82% with inert solid*	5.2	UN 2173	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-bis-(tert-butylperoxy) hexane, *technical pure*	5.2	UN 2155	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-bis-(tert-butylperoxy) hexane, *maximum concentration 52% with inert solid*	5.2	UN 2156	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-bis-(tert-butylperoxy) hexyne-3, *technical pure*	5.2	UN 2158	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-bis-(tert-butylperoxy) hexyne-3, *maximum concentration 52% with inert solid*	5.2	UN 2159	Organic Peroxide	II	1	5	
	2,5-Dimethyl-2,5-dihydroperoxy hexane, *maximum concentration 82% with water*	5.2	UN 2174	Organic Peroxide	I	1	5	
	3,5-Dimethyl-3,5-dihydroxydioxolane-1,2. *See* Acetyl acetone peroxide, *maximum concentration 40% in solution*							
	Dimethyl carbonate	3.2	UN 1161	Flammable Liquid	II	1,2	1	
	Dimethyl ether	2.1	UN 1033	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Dimethyl-p-nitrosoaniline	4.2	UN 1369	Spontaneously Combustible	II	1,2	5	Stow 'away from' foodstuffs
	Dimethyl sulphate	6.1	UN 1595	Poison	I	1	5	
	Dimethyl sulphide	3.1	UN 1164	Flammable Liquid	I	1,3	5	Keep cool
	Dimethyl thiophosphoryl chloride	8	UN 2267	Corrosive	III	1,2	1	Keep dry. Shade from radiant heat. Glass carboys prohibited on passenger vessels
	Dimethylamine, *anhydrous*	2.1	UN 1032	Flammable Gas	–	1,2	5	Stow 'away from' living quarters
	Dimethylamine, *solution*	3.2	UN 1160	Flammable Liquid	II	1,2	1	
	Dimethylaminoethyl methacrylate	6.1	UN 2522	Poison	II	1,2	1	
	N,N-Dimethylaniline	6.1	UN 2253	Poison	II	1,3	1,3	Stow 'away from' sources of heat
	Dimethylbutane	3.1	UN 2457	Flammable Liquid	II	1,2	5	
	Dimethyldichlorosilane	3.2	UN 1162	Flammable Liquid, Corrosive	I	1,2	1	
	Dimethylethanolamine	3.3	UN 2051	Flammable Liquid	II	1,3	1,3	
	N,N-Dimethylformamide	6.1	UN 2265	St. Andrews Cross	III	1,3	1,3	Stow 'away from' sources of heat and halogenated hydrocarbons
	2,5-Dimethylhexane-2,5-dihydroperoxide. *See* 2,5-Dimethyl-2,5-dihydroxy hexane							
	Dimethylhydrazine, *unsymmetrical*	3.2	UN 1163	Flammable Liquid	I	1,2	1	Stow 'separate from' corrosive liquids and oxidizers
	Dimethylmagnesium	4.2	UN 1368	Spontaneously Combustible	I	1	5	Prohibited on any ship carrying explosives
	2,2-Dimethylpropane	2.1	UN 2044	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Dimethylzinc	4.2	UN 1370	Spontaneously Combustible	I	1	5	Prohibited on any ship carrying explosives
	Dimyristylperoxydicarbonate, *technical pure*	5.2	UN 2595	Organic Peroxide	II	1	5	Maximum transport temperature 20 deg C
	4,6-Dinitro-o-cresol	6.1	UN 1598	Poison	II	1,2	1,2	
	Dinitroanilines	6.1	UN 1596	Poison	II	1,2	1,2	
	Dinitrobenzenes *(o-, m-, p-)*	6.1	UN 1597	Poison	II	1,2	1,2	
	Dinitrophenol, *solution in water or flammable liquid*	6.1	UN 1599	Poison	II	1,2	5	Stow 'away from' heavy metals and their compounds. Segregation same as for flammable liquids if flash point below 61 deg C
	Dinitrophenol, *wetted with not less than 15% of water*	4.1	UN 1320	Flammable Solid, Poison	I	1,2	5	Stow 'away from' heavy metals and their compounds and sodium compounds
	Dinitrophenolates, *wetted with not less than 15% of water*	4.1	UN 1321	Flammable Solid, Poison	I	1,2	5	Stow 'away from' heavy metals and their compounds
	Dinitroresorcinols, *wetted with not less than 33 1/3% of water*	4.1	UN 1322	Flammable Solid	I	1,2	5	Stow 'away from' heavy metals and their compounds
	Dinitrotoluenes, *liquid*	6.1	UN 1600	Poison, Flammable Liquid	II	1,2	1,2	Segregation same as for flammable liquids
	Dinitrotoluenes, *solid*	6.1	UN 2038	Poison	II	1,2	1,2	
	Dioxane	3.2	UN 1165	Flammable Liquid	II	1,2	1	
	Dioxolane	3.2	UN 1166	Flammable Liquid	II	1,2	1	
	Dipentene	3.3	UN 2052	Flammable Liquid	II	1,2	1,2	
	Diphenyl dichlorosilane	8	UN 1769	Corrosive	II	1	1	Keep dry
	Diphenylaminechloroarsine	6.1	UN 1698	Poison	I	1	5	
	Diphenylchloroarsine	6.1	UN 1699	Poison	I	1	5	
	Diphenylmethane diisocyanate *(M.D.I.)*	9	UN 2489	None	III	1,3	1,3	Stow 'away from' foodstuffs
	Diphenylmethyl bromide	8	UN 1770	Corrosive	II	1	5	
	Dipropylene triamine	8	UN 2269	Corrosive	III	1,2	1,2	
	Disinfectants, *corrosive, liquid*	8	UN 1903	Corrosive	II	1,2	1,2	
	Disinfectants, *(poisonous)*, n.o.s.	6.1 6.1 9	UN 1601 UN 1601 UN 1601	Poison St. Andrews Cross None	I/II III III	1,2 1,2 1,2	1,2 1,2 1,2	Stow 'separate from' foodstuffs. Stow 'separate from' foodstuffs. Stow 'away from' foodstuffs
	Distearylperoxydicarbonate, *with 15% of stearyl alcohol*	5.2	UN 2592	Organic Peroxide	II	1	5	
	Disuccinic acid peroxide. *See* Succinic acid peroxide							
	Divinyl ether, *inhibited*	3.1	UN 1167	Flammable Liquid	II	1,3	5	Keep cool
	Dodecyl-trichlorosilane	8	UN 1771	Corrosive	II			
	Dressing, leather. *See* Flammable liquid preparations, n.o.s.							
	Driers, *(paint or varnish, liquid)*, n.o.s.	3.2 3.3	UN 1168 UN 1168	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Driers, *(paint or varnish, solid)*, n.o.s.	4.1	UN 1371	Flammable Solid	III	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Dye intermediates, *(poisonous, liquid or solid)*, n.o.s.	6.1 6.1	UN 1602 UN 1602	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Electrolyte, *acid. See* Battery fluid, *acid*							
	Electrolyte, *alkaline. See* Battery fluid, *alkaline corrosive*							
	Enamels. *See* Paints, *etc.*							
	Endrin, *mixtures, dry or liquid*	6.1 6.1	UN 2065 UN 2065	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	If flashpoint below 61 deg C segregation same as for flammable liquids. If flashpoint below 61 deg C. segregation same as for flammable liquids
	Engine starting fluid, *with flammable gas*	2.1	UN 1960	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Epibromohydrin. *See* 1-Bromo-2,3-epoxypropane							
	Epichlorohydrin	6.1	UN 2023	Poison, Flammable Liquid (only if flashpoint is below 23 deg C.)	II	1,2	1,2	Separation same as for flammable liquids
	Eradicators, *paint or grease, liquid. To be classified and labeled according to the principle hazardous constituent*	--	UN 1850		--	1,2	1	
	Ethane, *compressed*	2.1	UN 1035	Flammable Gas	--	1,2	5	
	Ethane, *liquid*	2.1	UN 1961	Flammable Gas	--	1,2	5	
	Ethanol	3.2	UN 1170	Flammable Liquid	II	1,2	1	
	Ethanolamine, *and solutions thereof*	8	UN 2491	Corrosive	III	1,2	1,2	Stow 'away from' copper, copper alloys, copper compounds and rubber products
	Ether. *See* Diethyl ether							
	2-Ethoxyethanol	3.3	UN 1171	Flammable Liquid	III	1,2	1,2	
	2-Ethoxyethyl acetate	3.3	UN 1172	Flammable Liquid	III	1,2	1,2	
	Ethyl-3,3-bis(tert-butylperoxy)butyrate, *with at least 50% inert, inorganic solid*	5.2	UN 2598	Organic Peroxide	II	1	5	
	Ethyl-3,3-bis-(tert-butylperoxy) butyrate, *technical pure*	5.2	UN 2184	Organic Peroxide	II	1	5	
	Ethyl-3,3-bis-(tert-butylperoxy) butyrate, *maximum concentration 77% in solution*	5.2	UN 2185	Organic Peroxide	II	1	5	
	Ethyl acetate	3.2	UN 1173	Flammable Liquid	II	1,2	1	
	Ethyl acrylate, *inhibited*	3.2	UN 1917	Flammable Liquid	II	1,2	1	
	Ethyl alcohol. *See* Ethanol							
	Ethyl aldehyde. *See* Acetaldehyde							
	Ethyl aluminium dichloride	4.2	UN 1924	Spontaneously Combustible	I	1	1	
	Ethyl aluminium sesquichloride	4.2	UN 1925	Spontaneously Combustible	I	1	1	
	Ethyl borate	3.2	UN 1176	Flammable Liquid	II	1,2	1	
	Ethyl bromide	9	UN 1891	None	II	1,2	1,2	Stow 'away from' foodstuffs and living quarters
	Ethyl bromoacetate	6.1	UN 1603	Poison	II	1	5	
	Ethyl butyl ether	3.2	UN 1179	Flammable Liquid	II	1,2	1	
	Ethyl butyrate	3.3	UN 1180	Flammable Liquid	II	1,2	1,2	
	Ethyl chloride	2.1	UN 1037	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Ethyl chloroacetate	3.3	UN 1181	Flammable Liquid	II	1,2	1,2	
	Ethyl chlorocarbonate. See Ethyl chloroformate							
	Ethyl chloroformate	3.2	UN 1182	Flammable Liquid, Poison, Corrosive	I	1,2	1	
	Ethyl crotonate	3.2	UN 1862	Flammable Liquid	II	1,2	1	
	Ethyl dichloroarsine	6.1	UN 1892	Poison	I	1	5	
	Ethyl ether. See Diethyl ether							
	Ethyl formate	3.1	UN 1190	Flammable Liquid	II	1,3	5	Keep cool
	Ethyl hexaldehyde	3.3	UN 1191	Flammable Liquid	III	1,2	1,2	
	Ethyl lactate	3.3	UN 1192	Flammable Liquid	III	1,2	1,2	
	Ethyl methyl ether	2.1	UN 1039	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Ethyl methyl ketone	3.2	UN 1193	Flammable Liquid	II	1,2	1	
	Ethyl methyl ketone peroxide(s), *maximum concentration 60%*	5.2	UN 2127	Organic Peroxide	I	1	5	
	Ethyl methyl ketone peroxide(s), *maximum concentration 50%, containing not more than 10% available oxygen*	5.2	UN 2550	Organic Peroxide	I	1	5	
	N-Ethyl-n-benzylaniline	6.1	UN 2274	St. Andrews Cross	III	1,2	1,2	
	Ethyl nitrite, *solutions*	3.1	UN 1194	Flammable Liquid	I	1,3	5	Keep cool
	Ethyl oxalate	6.1	UN 2525	St. Andrews Cross	III	1,2	1	
	Ethyl propionate	3.2	UN 1195	Flammable Liquid	II	1,2	1	
	Ethyl silicate. *See* Tetraethyl silicate							
	Ethylamine	2.1	UN 1036	Flammable Gas	--	1,2	5	
	N-Ethylaniline	6.1	UN 2272	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	2-Ethylaniline	6.1	UN 2273	St. Andrews Cross	III	1,2	1,2	
	Ethylbenzene	3.3	UN 1175	Flammable Liquid	II	1,2	1,2	
	Ethylbutyl acetate	3.3	UN 1177	Flammable Liquid	III	1,2	1,2	
	2-Ethylbutyraldehyde	3.2	UN 1178	Flammable Liquid	II	1,2	1	
	Ethyldichlorosilane	3.2	UN 1183	Flammable Liquid	II	1,2	1	
	Ethylene chlorohydrin. *See* 2-Chloroethanol							
	Ethylene, *compressed*	2.1	UN 1962	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Ethylene dibromide	6.1	UN 1605	Poison	II	1,2	1,2	
	Ethylene dichloride	3.2	UN 1184	Flammable Liquid	II	1,2	1	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Ethylene glycol diethyl ether. *See* 1,2-Diethoxyethane							
	Ethylene glycol monobutyl ether	6.1	UN 2369	St. Andrews Cross	III	1,3	1,3	Stow 'away from' sources of heat. Segregation same as for flammable liquids
	Ethylene glycol monoethyl ether. *See* 2-Ethoxyethanol							
	Ethylene glycol monoethyl ether acetate. *See* 2-Ethoxyethyl acetate							
	Ethylene glycol monomethyl ether	3.3	UN 1188	Flammable Liquid	III	1,2	1,2	
	Ethylene glycol monomethyl ether acetate	3.3	UN 1189	Flammable Liquid	III	1,2	1,2	
	Ethylene, *liquid*	2.1	UN 1038	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Ethylene oxide and carbon dioxide, *mixtures containing not more than 10% carbon dioxide*	2.1	UN 1041	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Ethylene oxide and carbon dioxide, *mixtures containing not more than 17% of ethylene oxide*	2.1	UN 1952	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Ethylene oxide, *containing not more than 0.2% of nitrogen*	2.1	UN 1040	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Ethylenediamine	8	UN 1604	Corrosive	II	1,2	1,2	Stow 'away from' oxidizers. Segregation same as for flammable liquids
	Ethyleneimine, *inhibited*	3.2	UN 1185	Flammable Liquid, Poison	I	1,2	1	
	2-Ethylhexylamine	8	UN 2276	Corrosive	III	1,2	1,2	
	Ethylphenyldichlorosilane	8	UN 2435	Corrosive	II	1	1	Keep dry
	Ethyltrichlorosilane	3.2	UN 1196	Flammable Liquid, Corrosive	II	1,2	1	
	Explosives, blasting, Type B	1.5 D	UN 0331	(Explosive (1.5D))	--	6	5	
	Explosives, blasting, Type E	1.5 D	UN 0332	(Explosive (1.5D))	--	6	5	
	Extracts, *aromatic, liquid*	3.2	UN 1169	Flammable Liquid	II	1,2	1	
		3.3	UN 1169	Flammable Liquid	II	1,2	1,2	
	Extracts, *flavouring, liquid*	3.2	UN 1197	Flammable Liquid	II	1,2	1	
		3.3	UN 1197	Flammable Liquid	II	1,2	1,2	
	Fabric, *animal or vegetable, containing more than 5% of animal or vegetable oil*	4.2	UN 1373	Spontaneously Combustible	III	1,2	1,2	
	Ferric arsenate	6.1	UN 1606	Poison	II	1,2	1,2	
	Ferric arsenite	6.1	UN 1607	Poison	II	1,2	1,2	
	Ferric chloride, *anhydrous or solutions*	8	UN 1773	Corrosive	III	1,2	1,2	
	Ferric nitrate	5.1	UN 1466	Oxidizer	III	1,2	1,2	
	Ferrocerium	4.1	UN 1323	Flammable Solid	II	1,2	1,2	
	Ferrosilicon, *containing between 30% and 90% silicon*	4.3	UN 1408	Dangerous When Wet, Poison	III	1,2	1,2	Stow in a well ventilated compartment
	Ferrous arsenate	6.1	UN 1608	Poison	II	1,2	1,2	
	Fertilizer ammoniating solution, *containing free ammonia in excess of 35% ammonia*	2.2	UN 1043	Nonflammable Gas	--	1,2	5	Stow 'away from' living quarters
	Fibres, *animal or vegetable, burnt, wet or damp*	4.2	UN 1372	Spontaneously Combustible	III	1,2	1,2	
	Fibres, *animal or vegetable, containing more than 5% of animal or vegetable oil*	4.2	UN 1373	Spontaneously Combustible	III	1,2	1,2	
	Fibres, *vegetable, dry*	4.1	--	None	--	1,2	1,2	Stow 'away from' animal or vegetable oils
	Fillers, *liquid. See* Paints, *etc.*							
	Film from which gelatine has been removed. See Celluloid, *scrap*							
	Film, motion picture, *nitrocellulose base, exposed or unexposed, developed or undeveloped*	4.1	UN 1324	Flammable Solid	III	1,2	1,2	Stow 'away from' flammable substances. Maximum 250 Kg. net on deck on passenger vessels
	Film, motion picture, *nitrocellulose base, old film*	4.1	UN 1324	Flammable Solid	III	1	5	Stow 'away from' flammable substances
	Fire extinguisher charges, *corrosive liquid*	8	UN 1774	Corrosive	II	1,2	1,2	
	Fire extinguishers, *containing compressed or liquefied gas*	2.2	UN 1044	Nonflammable Gas	--	1,2	1,2	
	Fireworks, Type D	1.4 G	UN 0336	Explosive (1.4G)	--	1,3	1,3	
		1.4 S	UN 0337	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Fishmeal or fishscrap, *antioxidant treated. Unrestricted moisture content.*	4.2	UN 2216	Spontaneously Combustible	II/III	1,2	1,2	Double strip stowage recommended. Provide good surface and through ventilation
	Fishmeal or fishscrap, *antioxidant treated. Moisture content between 5% and 11% by weight. Fat content not more than 18% by weight.*	9	UN 2216	None	III	1,2	1,2	
	Fishmeal or fishscrap, *antioxidant treated. Moisture content greater than 6% but not exceeding 12% by weight. Fat content exceeding 18% by weight.*	4.2	UN 2216	None. Package to be marked 'Class 4.2'.	III	1,2	1,2	
	Fishmeal or fishscrap, *not antioxidant treated. Unrestricted moisture content.*	4.2	UN 1374	Spontaneously Combustible	II/III	1,2	1,2	Double strip stowage recommended. Provide good surface and through ventilation
	Fishmeal or fishscrap, *not antioxidant treated. Moisture content greater than 6% but not exceeding 12% by weight, fat content not exceeding 12% by weight.*	4.2	UN 1374	None. Package to be marked 'Class 4.2'.	III	1,2	1,2	
		9	UN 1374	None	III	1,2	1,2	
	Fishmeal or fishscrap, *not antioxidant treated. Moisture content greater than 6% but not exceeding 12% by weight. Fat content greater than 12% but not exceeding 15% by weight.*	4.2	UN 1374	None. Package to be marked 'Class 4.2'.	III	1,2	1,2	
	Flammable liquid preparation, n.o.s.	3.2	UN 1142	Flammable Liquid	II	1,2	1	
		3.3	UN 1142	Flammable Liquid	II	1,2	1,2	
	Flammable liquids, *(non-toxic)*, n.o.s.	3.2	UN 1993	Flammable Liquid	II	1,2	1	
		3.3	UN 1993	Flammable Liquid	II	1,2	1,2	
	Flammable liquids, *(toxic)*, n.o.s.	3.2	UN 1992	Flammable Liquid, Poison	II	1,2	1	
		3.3	UN 1992	Flammable Liquid, Poison	II	1,2	1,2	
	Flammable solids, n.o.s.	4.1	UN 1325	Flammable Solid	II	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Flax, dry. See Fibres, *vegetable, dry*							
	Fluoboric acid	8	UN 1775	Corrosive	II	1,2	1,2	
	Fluoric acid. *See* Hydrofluoric acid, *solution*							
	Fluorine	2.3	UN 1045	Poison Gas, Oxidizer	--	1	5	Stow 'away from' foodstuffs, organic materials, and living quarters
	Fluorophosphoric acid, *anhydrous*	8	UN 1776	Corrosive	II	1,2	1,2	
	Fluorosulphonic acid	8	UN 1777	Corrosive	I	1	5	Keep dry. Stow 'away from' fluorides
	Fluosilicic acid	8	UN 1778	Corrosive	II	1,2	1,2	
	Formaldehyde, *in solutions*	3.3	UN 1198	Flammable Liquid	II	1,2	1,2	Stow 'away from' foodstuffs
	Formaldehyde, *solutions flashpoint above 61 degrees C*	9	UN 2209	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Formalin. *See* Formaldehyde							
	Formic acid	8	UN 1779	Corrosive	II	1,2	1,2	Glass carboy in hampers prohibited
	Fuel, aviation, *turbine engine*	3.2	UN 1863	Flammable Liquid	II	1,2	1	
	Fumaryl chloride	8	UN 1780	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Fungicides, *(poisonous)*, n.o.s.	6.1 6.1 9	UN 1609 UN 1609 UN 1609	Poison St. Andrews Cross None	I/II III III	1,2 1,2 1,2	1,2 1,2 1,2	Stow 'separate from' foodstuffs. Stow 'separate from' foodstuffs. Stow 'away from' foodstuffs
	Furfural	3.3	UN 1199	Flammable Liquid	II	1,2	1,2	
	Fuse, detonating, mild effect, *metal clad*	1.4 D	UN 0104	Explosive (1.4D)	--	1,3	1,3	
	Fuse, igniter, tubular, *metal clad*	1.4 G	UN 0103	Explosive (1.4G)	--	1,3	1,3	
	Fuse, safety	1.4 S	UN 0105	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Fusel oil	3.2	UN 1201	Flammable Liquid	II	1,2	1	
	Fuzes, detonating	1.4S	UN 0367	None. Package to be marked '1.4S'	--	1,3	1,3	
	Fuzes, detonating	1.4 B	UN 0257	Explosive (1.4B)	--	1,3	1,3	
	Fuzes, igniting	1.4S	UN 0368	None. Package to be marked '1.4S'	--	1,3	1,3	
	Gas cartridges	2.1	UN 2037	Flammable Gas	--			
	Gas drips, *hydrocarbon*	3.2	UN 1864	Flammable Liquid	II	1,2	1	
	Gas oil	3.3	UN 1202	Flammable Liquid	II	1,2	1,2	
	Gasoline	3.1	UN 1203	Flammable Liquid	II	1,2	5	
	Germane	2.3	UN 2192	Poison Gas, Flammable Gas	--	1	5	Stow 'away from' living quarters
	Germicides, *(poisonous)*, n.o.s.	6.1 6.1 9	(UN 2588) (UN 2588) (UN 2588)	Poison St. Andrews Cross None	I/II III III	1,2 1,2 1,2	1,2 1,2 1,2	Stow 'separate from' foodstuffs. Stow 'separate from' foodstuffs. Stow 'away from' foodstuffs
	Glyceryl trinitrate, *solution up to 1% in alcohol*	3.2	UN 1204	Flammable Liquid	II	1,2	1	
	Grenades, practice, *hand or rifle*	1.4 S	UN 0110	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Guanidine nitrate	9	UN 1467	None	III	1,2	1,2	Stow 'separate from' nitro compounds, chlorates or acids
	Gutta percha, *solution*	3.3	UN 1205	Flammable Liquid	II	1,2	1,2	
	Hafnium metal powder, dry	4.2	UN 2545	Spontaneously Combustible	II	1	5	
	Hafnium metal powder, wet, *with not less than 25% water (a visible excess of water must be present)*	4.1	UN 1326	Flammable Solid	II	1,2	5	
	Halogenated irritating liquids, n.o.s.	6.1 6.1	UN 1610 UN 1610	Poison St. Andrews Cross	I/II III	1 1	5 5	
	Hay	4.1	UN 1327	None	III	1,2	1,2	Stow 'away from' animal or vegetable oils
	Helium, *compressed*	2.2	UN 1046	Nonflammable Gas	--	1,2	1,2	
	Helium, *liquid*	2.2	UN 2041	Nonflammable Gas	--	1,2	1,2	
	Hemp, dry. See Fibres, *vegetable, dry*							
	Heptane	3.2	UN 1206	Flammable Liquid	II	1,2	1	
	Hexachlorobutadiene	6.1	UN 2279	St. Andrews Cross	III	1,2	1,2	
	Hexadecyl trichlorosilane	8	UN 1781	Corrosive	II	1	1	Keep dry
	Hexaethyl tetraphosphate	6.1 6.1	UN 1611 UN 1611	Poison St. Andrews Cross	I/II III	1,2 1,2	5 5	
	Hexaethyl tetraphosphate *and compressed gas mixture*	6.1 6.1	UN 1612 UN 1612	Poison, Non-flammable Compressed gas St. Andrews Cross, Non-flammable Compressed Gas	I/II III	1 1	5 5	Shade from radiant heat. Segregation same as nonflammable gas. Shade from radiant heat. Segregation same as for non-flammable gas
	Hexafluoroacetone	2.3	UN 2420	Poison Gas	--	1	5	Stow 'away from' living quarters
	Hexafluoroacetone hydrate	6.1	UN 2552	Poison	II	1,2	1	
	Hexafluorophosphoric acid	8	UN 1782	Corrosive	II	1,2	1,2	
	Hexafluoropropylene	2.2	UN 1858	Nonflammable Gas	--	1,2	1,2	
	Hexaldehyde	3.3	UN 1207	Flammable Liquid	III	1,2	1,2	
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxonane, *technical pure*	5.2	UN 2165	Organic Peroxide	I	1	5	
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetroxonane, *maximum concentration 52% with inert solid*	5.2	UN 2166	Organic Peroxide	II	1	5	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetroxonane, *maximum concentration 52% in solution*	5.2	UN 2167	Organic Peroxide	II	1	5	
	Hexamethylenediamine, *solid*	8	UN 2280	Corrosive	III	1,2	1,2	Keep cool
	Hexamethylenediamine, *solution*	8	UN 1783	Corrosive, Poison	II	1,2	1,2	
	Hexamine	4.1	UN 1328	Flammable Solid	III	1,2	1,2	
	Hexane	3.1	UN 1208	Flammable Liquid	II	1,2	5	
	Hexyl trichlorosilane	8	UN 1784	Corrosive	II	1	1	Keep dry
	Hydrazine, *anhydrous and solutions containing less than 36% water, by weight*	8	UN 2029	Corrosive, Poison	I	1	5	
	Hydrazine, *solutions containing 36% or more water, by weight*	8	UN 2030	Corrosive, Poison	II	1,2	5	Under deck not permitted if containing less than 64% water by weight. Stow 'away from' nitric acids and perchloric acids exceeding 50% acid by weight
	Hydrides, *(metal)*, n.o.s.	4.3	UN 1409	Dangerous When Wet	I	1,2	5	
	Hydriodic acid	8	UN 1787	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels
	Hydrobromic acid	8	UN 1788	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels. Stow 'away from' fluorides
	Hydrocarbon gases *(and mixtures of such gases, compressed)*, n.o.s.	2.1	UN 1964	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Hydrocarbon gases *(and mixtures of such gases, liquefied)*, n.o.s.	2.1	UN 1965	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Hydrochloric acid	8	UN 1789	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels. Stow 'away from' fluorides
	Hydrocyanic acid, *anhydrous. See* Hydrogen cyanide							
	Hydrocyanic acid, *aqueous solution of not more than 20% of hydrogen cyanide*	6.1	UN 1613	Poison	I	1	5	
	Hydrofluoric acid, *solution*	8	UN 1790	Corrosive	I/II	1	5	Keep cool
	Hydrofluoric and sulphuric acid, *mixtures. See* Acid mixtures, *hydrofluoric and sulphuric*							
	Hydrofluosilicic acid. *See* Fluosilicic acid							
	Hydrogen and methane, *mixtures*	2.1	UN 2034	Flammable Gas	--	1,2	5	Stow 'away from' living quarters
	Hydrogen bromide, *anhydrous*	2.3	UN 1048	Poison Gas, Corrosive	--	1	5	Stow 'away from' foodstuffs and living quarters
	Hydrogen chloride, *anhydrous*	2.3	UN 1050	Poison Gas, Corrosive	--	1	5	Stow 'away from' foodstuffs and living quarters
	Hydrogen, *compressed*	2.1	UN 1049	Flammable Gas	--	1,2	5	Stow 'separate from' chlorine, 'away from' living quarters
	Hydrogen cyanide, *anhydrous, stabilized*	2.3	UN 1051	Poison Gas, Flammable Gas	--	1	5	Stow 'away from' foodstuffs and living quarters
	Hydrogen cyanide, *anhydrous, stabilized, absorbed in a porous inert material*	6.1	UN 1614	Poison	I	1	5	Shade from radiant heat
	Hydrogen fluoride, *anhydrous*	2.3	UN 1052	Poison Gas, Corrosive	--	1	5	Stow 'away from' foodstuffs and living quarters
	Hydrogen iodide, *anhydrous*	2.3	UN 2197	Poison Gas, Corrosive	--	1	5	Stow 'away from' living quarters
	Hydrogen iodide, *solution. See* Hydriodic acid							
	Hydrogen peroxide, *concentrations of 8% up to 40% peroxide*	5.1	UN 2014	Oxidizer	II	1,2	1	Shade from radiant heat. Stow 'away from' powdered metals and 'separate from' permanganates
	Hydrogen peroxide, *concentrations of over 40% up to 60% peroxide*	5.1	UN 2014	Oxidizer, Corrosive	II	1	5	Shade from radiant heat. Stow 'away from' powdered metals and 'separate from' permanganates
	Hydrogen peroxide, *stabilized, concentrations of over 60% peroxide*	5.1	UN 2015	Oxidizer, Corrosive	I	1	5	Permitted only under conditions approved by the Department
	Hydrogen selenide	2.3	UN 2202	Poison Gas, Flammable Gas	--	1	5	Stow 'away from' living quarters
	Hydrogen sulphide	2.1	UN 1053	Flammable Gas, Poison Gas	--	1	5	Stow 'away from' foodstuffs and living quarters
	Hydrosilicofluoric acid. *See* Fluosilicic acid							
	1-Hydroxy-1'-hydroperoxy dicyclohexyl peroxide, *and mixtures with* bis-(1-hydroxy cyclohexyl) peroxide, *in a concentration of more than 90% with less than 10% water*	5.2	UN 2117	Organic Peroxide	I	1	5	
	1-Hydroxy-1'-hydroperoxy dicyclohexyl peroxide, *and mixtures with* bis-(1-hydroxy cyclohexyl) peroxide, *in a concentration of 90% or less with at least 10% water*	5.2	UN 2119	Organic Peroxide	I	1	5	
	1-Hydroxy-1'-hydroperoxy dicyclohexyl peroxide, *and mixtures with* bis-(1-hydroxy cyclohexyl) peroxide, *maximum concentration 72% as a paste or in solution*	5.2	UN 2118	Organic Peroxide	I	1	5	
	Hypochlorite, *solutions containing more than 5% available chlorine*	8	UN 1791	Corrosive	II/III	1,2	1	Glass carboys in hampers prohibited under deck
	Igniters	1.4 G	UN 0325	Explosive (1.4G)	--			
	Inflammable gas for lighters. *See* Lighters, *for cigars and cigarettes, containing flammable gas*							
	Inflammable liquid preparations, n.o.s.. *See* Flammable liquid preparations, n.o.s.							
	Inflammable liquids, *(non-toxic)*, n.o.s.. *See* Flammable liquids, *(non-toxic)*, n.o.s.							
	Inflammable liquids, *(toxic)*, n.o.s.. *See* Flammable liquids, *(toxic)*, n.o.s.							
	Inflammable solids, n.o.s.. *See* Flammable solids, n.o.s.							
	Ink, printers	3.2 3.3	UN 1210 UN 1210	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Insecticide gases, *(non-toxic)*, n.o.s.	2.1 2.2	UN 1968 UN 1968	Flammable Gas Nonflammable Gas	-- --	1,2 1,3	1 1,3	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Insecticide gases, *(toxic)*, n.o.s.	2.3	UN 1967	Poison Gas	--	1	5	Shade from radiant heat
	Insecticides, n.o.s.	6.1	UN 1615	Poison	I/II	1,2	1,2	Stow 'separate from' foodstuffs.
		6.1	UN 1615	St. Andrews Cross	III	1,2	1,2	Stow 'separate from' foodstuffs.
		9	UN 1615	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Iodine monochloride	8	UN 1792	Corrosive	II	1	5	Keep dry
	Iron carbonyl	3.1	UN 1994	Flammable Liquid, Poison	I	1	5	Shade from radiant heat
	Iron chloride. *See* Ferric chloride							
	Iron oxide, *spent*	4.2	UN 1376	Spontaneously Combustible	III	1,2	5	
	Iron pentacarbonyl. *See* Iron carbonyl							
	Iron sesquichloride. *See* Ferric chloride							
	Iron sponge, *spent*. *See* Iron oxide, *spent*							
	Iron swarf, *e.g. borings, cuttings, drillings, filings, shavings, turnings*	4.2	UN 2793	None	--	1,2	1,2	
	Isobutane *or isobutane mixtures*	2.1	UN 1969	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Isobutanol	3.3	UN 1212	Flammable Liquid	II	1,2	1,2	
	Isobutyl acetate	3.2	UN 1213	Flammable Liquid	II	1,2	1	
	Isobutyl alcohol. *See* Isobutanol							
	Isobutyl aldehyde. *See* Isobutyraldehyde							
	Isobutyl methyl ketone peroxide, *maximum concentration 62% in solution*	5.2	UN 2126	Organic Peroxide	I	1	5	
	Isobutylamine	3.2	UN 1214	Flammable Liquid	II	1,2	1	
	Isobutylene	2.1	UN 1055	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Isobutyraldehyde	3.1	UN 2045	Flammable Liquid	II	1,2	5	Keep cool
	Isobutyryl peroxide, *maximum concentration 52% in solution*	5.2	UN 2182	Organic Peroxide	II	1	5	Maximum transport temperature -20 deg C
	Isocyanates *(and solutions)*	3.1	UN 2478	Flammable Liquid, Poison	II	1	5	Stow 'away from' living quarters and sources of heat
	Isocyanates *(with a boiling point below 300 degrees C and a flashpoint of 23 degrees C or above, and their solutions)*, n.o.s.	6.1	UN 2206	Poison, Flammable Liquid (only if flashpoint of the substance or solution is below 61 deg C.)	II	1,3	1,3	Shade from radiant heat. Stow 'away from' sources of heat. Segregation same as for flammable liquids if flashpoint below 61 deg C
	Isocyanates *(with a boiling point of 300 degrees C and above and their solutions)*, n.o.s.	9	UN 2207	None	III	1,2	1,2	Stow 'away from' foodstuffs and sources of heat
	Isononanoyl peroxide, *technical pure or in solution*	5.2	UN 2128	Organic Peroxide	II	1	5	Maximum transport temperature 0 deg C
	Isooctene	3.1	UN 1216	Flammable Liquid	II	1,2	5	
	Isopentane	3.1	UN 1265	Flammable Liquid	I	1,2	5	
	Isophorone diisocyanate	6.1	UN 2290	Poison	II	1,2	1	
	Isophoronediamine	8	UN 2289	Corrosive	III	1,2	1,2	Glass carboys prohibited on passenger vessels
	Isoprene, *inhibited*	3.1	UN 1218	Flammable Liquid	I	1,2	5	Keep cool
	Isopropanol	3.2	UN 1219	Flammable Liquid	II	1,2	1	
	Isopropyl acetate	3.2	UN 1220	Flammable Liquid	II	1,2	1	
	Isopropyl acid phosphate	8	UN 1793	Corrosive	III	1,2	1,2	Glass carboys in hampers prohibited under deck
	Isopropyl alcohol. *See* Isopropanol							
	Isopropyl nitrate	3.2	UN 1222	Flammable Liquid	II	1,2	1	
	Isopropyl peroxydicarbonate. *See* Diisopropyl perdicarbonate							
	Isopropylamine	3.1	UN 1221	Flammable Liquid	I	1,2	5	Keep cool
	Isopropylbenzene	3.3	UN 1918	Flammable Liquid	II	1,2	1,2	
	Jute, dry. See Fibres, *vegetable, dry*							
	Kapok, dry. See Fibres, *vegetable, dry*							
	Kerosene	3.3	UN 1223	Flammable Liquid	II	1,2	1,2	
	Ketones, *(liquid, non-toxic)*, n.o.s.	3.2	UN 1224	Flammable Liquid	II	1,2	1	
		3.3	UN 1224	Flammable Liquid	II	1,2	1,2	
	Ketones, *(liquid, toxic)*, n.o.s.	3.2	UN 1224	Flammable Liquid, Poison	II	1,2	1	
		3.3	UN 1224	Flammable Liquid, Poison	II	1,2	1,2	
	Krypton, *compressed*	2.2	UN 1056	Nonflammable Gas	--	1,2	1,2	
	Krypton, *liquid*	2.2	UN 2042	Nonflammable Gas	--	1	5	
	Lacquer base. *See* Paints, *etc.*							
	Lacquer chips. *See* Paints, *etc.*							
	Lacquers. *See* Paints, *etc.*							
	Lauroyl peroxide, *technical pure*	5.2	UN 2124	Organic Peroxide	II	1	5	
	Lead acetate	6.1	UN 1616	St. Andrews Cross	III	1,2	1,2	
	Lead arsenates	6.1	UN 1617	Poison	II	1,2	1,2	
	Lead arsenites	6.1	UN 1618	Poison	II	1,2	1,2	
	Lead compounds, *(water soluble)*, n.o.s.	6.1	UN 2291	St. Andrews Cross	III	1,2	1,2	
	Lead cyanide	6.1	UN 1620	Poison	II	1,2	1,2	Stow 'away from' acids
	Lead dioxide	5.1	UN 1872	Oxidizer	III	1,2	1,2	Stow 'away from' foodstuffs
	Lead dross. *See* Lead sulphate, *containing more than 3% free acid*							
	Lead nitrate	5.1	UN 1469	Oxidizer,Poison	II	1,2	1,2	Store 'away from' foodstuffs
	Lead perchlorate	5.1	UN 1470	Oxidizer,Poison	II	1,2	1,2	Stow 'away from' powdered metals and foodstuffs
	Lead peroxide. *See* Lead dioxide							

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Lead sulphate, *containing more than 3% free acid*	8	UN 1794	Corrosive	II	1,2	1,2	
	Life-rafts, *inflatable*	9	--	None	--	1,2	1,2	
	Lighter fuels, *cigar and cigarette*	3.2	UN 1226	Flammable Liquid	II	1,2	1	
	Lighters *for cigars and cigarettes, etc., containing fuel*	3.2	UN 1226	Flammable Liquid	II	1,2	1	
	Lighters *for cigars and cigarettes, etc., containing flammable gas*	2.1	UN 1057	Flammable Gas	--	1	1	Stow 'away from' living quarters. Not permitted in nonventilated containers
	Lighters, fuse	1.4 S	UN 0131	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Liquefied non-flammable gases charged with nitrogen, carbon dioxide or air	2.2	UN 1058	Nonflammable Gas	--	1,2	1,2	
	Lithium alkyls	4.2	UN 2445	Spontaneously Combustible	I	1	1	
	Lithium aluminium hydride	4.3	UN 1410	Dangerous When Wet	I	1,2	5	
	Lithium aluminium hydride, *ethereal*	4.3	UN 1411	Dangerous When Wet, Flammable Liquid	I	1	5	
	Lithium amide	4.3	UN 1412	Dangerous When Wet	II	1,2	5	
	Lithium borohydride	4.3	UN 1413	Dangerous When Wet	I	1,2	5	
	Lithium hydride	4.3	UN 1414	Dangerous When Wet	I	1,2	5	
	Lithium hypochlorite, *dry, including mixtures containing more than 39% available chlorine (8.8% available oxygen)*	5.1	UN 1471	Oxidizer	II	1,2	1,2	
	Lithium, *(metal)*	4.3	UN 1415	Dangerous When Wet	II	1,2	5	
	Lithium peroxide	5.1	UN 1472	Oxidizer	II	1,2	1,2	Keep dry
	Lithium silicon	4.3	UN 1417	Dangerous When Wet	II	1,2	1,2	
	London purple	6.1	UN 1621	Poison	II	1,2	1,2	
	Lye. *See* Sodium hydroxide							
	Magnesium alloys, *containing more than 50% magnesium, pellets, turnings or ribbon*	4.1	UN 1869	Flammable Solid	III	1,2	1,2	Stow 'away from' nonflammable gases and poisons
	Magnesium alloys, *containing more than 50% magnesium, powder, non-pyrophoric*	4.3	UN 1418	Dangerous When Wet	II	1,2	1,2	Stow 'away from' nonflammable gases and poisons
	Magnesium aluminium phosphide	4.3	UN 1419	Dangerous When Wet	I	1	5	
	Magnesium arsenate	6.1	UN 1622	Poison	II	1,2	1,2	
	Magnesium bromate	5.1	UN 1473	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds
	Magnesium diamide	4.2	UN 2004	Spontaneously Combustible	II	1	1	
	Magnesium diphenyl	4.2	UN 2005	Spontaneously Combustible	I	1	1	
	Magnesium hydride	4.3	UN 2010	Dangerous When Wet	I	1,2	5	
	Magnesium nitrate	5.1	UN 1474	Oxidizer	III	1,2	1,2	
	Magnesium, *pellets, turnings or ribbon*	4.1	UN 1869	Flammable Solid	III	1,2	1,2	Stow 'away from' nonflammable gases and poisons
	Magnesium perchlorate	5.1	UN 1475	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals
	Magnesium peroxide	5.1	UN 1476	Oxidizer	II	1,2	1,2	Keep dry
	Magnesium phosphide	4.3	UN 2011	Dangerous When Wet, Poison	I	1	5	
	Magnesium, *powder, non-pyrophoric*	4.3	UN 1418	Dangerous When Wet	II	1,2	1,2	Stow 'away from' nonflammable gases and poisons
	Maleic anhydride	8	UN 2215	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Maneb, *or* maneb preparation(s) *containing 60% or more maneb*	4.2	UN 2210	Spontaneously Combustible	III	1,2	1,2	Stow 'away from' acids, living quarters and foodstuffs
	Manganese ethylene-bis-dithiocarbamate. See Maneb							
	Manganese resinate	4.1	UN 1330	Flammable Solid	III	1,2	1,2	
	Matches, *fusee*	4.1	UN 2254	Flammable Solid	III	1,2	1,2	
	Matches, *safety*	9	UN 1944	None	III	1,2	1,2	Keep dry
	Matches, *strike anywhere*	4.1	UN 1331	Flammable Solid	III	1,2	1	
	Matches, *wax 'vesta'*	4.1	UN 1945	Flammable Solid	III	1,2	1	
N	Medicines, n.o.s. *to be classified and labeled according to the principle hazardous constituent*	--	UN 1851		--			
	MEKP. See Ethyl methyl ketone peroxide							
	p-Menthane hydroperoxide, *technical pure*	5.2	UN 2125	Organic Peroxide	I	1	5	
	Mercaptans *and* mercaptan mixtures, *(liquid)*, n.o.s.	3.1	UN 1228	Flammable Liquid	II	1,2	5	Keep cool
	Mercuric acetate. *See* Mercury acetate							
	Mercuric arsenate	6.1	UN 1623	Poison	II	1,2	1,2	
	Mercuric bromide. *See* Mercury bromides							
	Mercuric chloride	6.1	UN 1624	Poison	II	1,2	1,2	
	Mercuric cyanide. *See* Mercury cyanide							
	Mercuric nitrate	6.1	UN 1625	Poison	II	1,2	1,2	
	Mercuric oxycyanide. *See* Mercury oxycyanide							
	Mercuric potassium cyanide	6.1	UN 1626	Poison	I	1,2	1,2	Stow 'away from' acids
	Mercuric sulphate	6.1	UN 1645	Poison	II	1,2	1,2	
	Mercurol. *See* Mercury nucleate							
	Mercurous acetate. *See* Mercury acetate							
	Mercurous bromide. *See* Mercury bromides							
	Mercurous nitrate. *See* Mercury acetate							
	Mercurous sulphate	6.1	UN 1628	Poison	II	1,2	1,2	
	Mercury acetate	6.1	UN 1629	Poison	II	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Mercury ammonium chloride	6.1	UN 1630	Poison	II	1,2	1,2	
	Mercury benzoate	6.1	UN 1631	Poison	II	1,2	1,2	
	Mercury bisulphate	6.1	UN 1633	Poison	II	1,2	1,2	
	Mercury bromides	6.1	UN 1634	Poison	II	1,2	1,2	
	Mercury compounds, *(inorganic)*, n.o.s.	6.1	UN 2024	Poison	I/II	1,2	1,2	
		6.1	UN 2024	St. Andrews Cross	III	1,2	1,2	
	Mercury compounds, *(organic)*, n.o.s.	6.1	UN 2025	Poison	I/II	1,2	1,2	
		6.1	UN 2025	St. Andrews Cross	III	1,2	1,2	
	Mercury cyanide	6.1	UN 1636	Poison	II	1,2	1,2	Stow 'away from' acids
	Mercury gluconate	6.1	UN 1637	Poison	II	1,2	1,2	
	Mercury iodide	6.1	UN 1638	Poison	II	1,2	1,2	
	Mercury nucleate	6.1	UN 1639	Poison	II	1,2	1,2	
	Mercury oleate	6.1	UN 1640	Poison	II	1,2	1,2	
	Mercury oxide	6.1	UN 1641	Poison	II	1,2	1,2	
	Mercury oxycyanide	6.1	UN 1642	Poison	II	1,2	1,2	Stow 'away from' acids
	Mercury potassium iodide	6.1	UN 1643	Poison	II	1,2	1,2	
	Mercury salicylate	6.1	UN 1644	Poison	II	1,2	1,2	
	Mercury thiocyanate	6.1	UN 1646	Poison	II	1,2	1,2	
	Mesityl oxide	3.3	UN 1229	Flammable Liquid	II	1,2	1,2	
	Metal alkyls, n.o.s.	4.2	UN 2003	Spontaneously Combustible	I	1	5	Shade from radiant heat. Stow 'separate from flammable liquids or gases, oxidizers or organic peroxides
	Metaldehyde	4.1	UN 1332	Flammable Solid	III	1,2	1,2	
	Methacrylic acid, *inhibited*	8	UN 2531	Corrosive	II	1	1	Keep cool. Glass carboys prohibited on passenger vessels
	Methane *or* natural gases *with a high methane content, compressed*	2.1	UN 1971	Flammable Gas	–	1,2	5	Stow 'away from' living quarters
	Methane *or* natural gases *with a high methane content, refrigerated liquid*	2.1	UN 1972	Flammable Gas	–	1	5	Stow 'away from' living quarters
	Methanol	3.2	UN 1230	Flammable Liquid, Poison	II	1,2	1	
	2-Methyl-1,3-butadiene. *See* Isoprene							
	2-Methyl-5-ethylpyridine	6.1	UN 2300	St. Andrews Cross	III	1,2	1,2	
	Methyl acetate	3.2	UN 1231	Flammable Liquid	II	1,2	1	
	Methyl acetone	3.2	UN 1232	Flammable Liquid	II	1,2	1	
	Methyl acetylene, *mixed with 15% to 20%* propadiene	2.1	UN 1060	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	beta-Methyl acrolein. *See* Crotonaldehyde, *inhibited*							
	Methyl acrylate, *inhibited*	3.2	UN 1919	Flammable Liquid	II	1,2	1	
	Methyl alcohol. *See* Methanol							
	Methyl aluminium sesquibromide	4.2	UN 1926	Spontaneously Combustible	I	1	1	
	Methyl aluminium sesquichloride	4.2	UN 1927	Spontaneously Combustible	I	1	1	
	Methyl amyl ketone. *See* Amyl methyl ketone							
	Methyl bromide	2.3	UN 1062	Poison Gas	–	1	5	
	Methyl bromide and chloropicrin, mixtures. *See* Chloropicrin and methyl bromide, mixtures							
	Methyl bromide and ethylene dibromide, *liquid mixtures*	6.1	UN 1647	Poison	I	1	1	
	Methyl butyrate	3.2	UN 1237	Flammable Liquid	II	1,2	1	
	Methyl chloride	2.1	UN 1063	Flammable Gas	–	1,2	5	Stow 'away from' living quarters
	Methyl chloride and chloropicrin, mixtures. See Chloropicrin and methyl chloride, mixtures							
	Methyl chloride and methylene chloride, *mixtures*	2.1	UN 1912	Flammable Gas	–	1,2	5	
	Methyl chlorocarbonate. *See* Methyl chloroformate							
	Methyl chloroformate	3.2	UN 1238	Flammable Liquid, Poison, Corrosive	I	1,2	1	
	Methyl cyanide	6.1	UN 1648	Poison, Flammable Liquid	II	1	5	Shade from radiant heat. Segregation as for flammable liquids
	Methyl cyclohexane	3.2	UN 2296	Flammable Liquid	II	1,2	1	
	Methyl cyclopentane	3.1	UN 2298	Flammable Liquid	II	1,2	5	
	Methyl dichloroacetate	6.1	UN 2299	St. Andrews Cross	III	1,2	1,2	
	Methyl ethyl ether. *See* Ethyl methyl ether							
	Methyl ethyl ketone peroxide(s). *See* Ethyl methyl ketone peroxide							
	Methyl ethyl ketone. *See* Ethyl methyl ketone							
	Methyl formate	3.1	UN 1243	Flammable Liquid	I	1,3	5	Keep cool
	Methyl isobutyl carbinol	3.3	UN 2053	Flammable Liquid	III	1,2	1,2	
	Methyl isobutyl ketone	3.2	UN 1245	Flammable Liquid	II	1,2	1	
	Methyl isocyanate *and solutions*	3.1	UN 2480	Flammable Liquid, Poison	I	1	5	Stow 'away from' living quarters and sources of heat
	Methyl isopropenyl ketone, *inhibited*	3.2	UN 1246	Flammable Liquid	II	1,2	1	
	Methyl magnesium bromide, *in ethyl ether*	4.2	UN 1928	Spontaneously Combustible	I	1	5	
	Methyl methacrylate, *monomer, inhibited*	3.2	UN 1247	Flammable Liquid	II	1,2	1	
	Methyl propionate	3.2	UN 1248	Flammable Liquid	II	1,2	1	
	Methyl propyl ketone	3.2	UN 1249	Flammable Liquid	II	1,2	1	
	Methyl sulphide. *See* Dimethyl sulfide							
	Methyl trichloroacetate	6.1	UN 2533	St. Andrews Cross	III	1,2	1	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Methyl vinyl ketone	3.2	UN 1251	Flammable Liquid	II	1,2	1	
	Methylal	3.1	UN 1234	Flammable Liquid	II	1,2	5	Keep cool
	Methylamine, *anhydrous*	2.1	UN 1061	Flammable Gas	–	1,2	5	
	Methylamine, *aqueous solution*	3.1	UN 1235	Flammable Liquid	II	1,2	5	Keep cool. Stow 'away from' mercury and its compounds
	Methylamyl acetate	3.3	UN 1233	Flammable Liquid	III	1,2	1,2	
	N-Methylaniline	6.1	UN 2294	St. Andrews Cross	III	1,2	1,2	
	Methylchloromethyl ether	3.1	UN 1239	Flammable Liquid	II	1	5	Keep cool
	Methyldichlorosilane	3.2	UN 1242	Flammable Liquid, Corrosive	I	1,2	1	
	Methylene bis (phenylene isocyanate). *See* Diphenylmethane diisocyanate							
	Methylene chloride. *See* Dichloromethane							
	Methylhydrazine	3.2	UN 1244	Flammable Liquid, Corrosive	I	1,2	1	
	Methylmercaptan	2.1	UN 1064	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Methylphenyldichlorosilane	8	UN 2437	Corrosive	II	1	1	Keep dry. Segregation same as for flammable liquids
	Methyltrichlorosilane	3.2	UN 1250	Flammable Liquid, Corrosive	II	1,2	1	
	Mischmetal, *powder*	4.1	UN 1333	Flammable Solid	II	1,2	5	Stow 'separate from' flammable substances and oxidizers
	Mischmetal, *slabs or ingots*	4.1	UN 1333	Flammable Solid	III	1,2	1,2	Stow 'separate from' flammable substances and oxidizers
	Mixed acid. *See* Acid mixtures, *nitrating acid*							
	Mixed acid, spent. See Acid mixtures, *spent*							
	Molybdenum pentachloride	8	UN 2508	Corrosive	III	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Monoethylamine. *See* Ethylamine							
	Monomethylamine, *anhydrous. See* Methylamine, *anhydrous*							
	Monomethylamine, *aqueous solution. See* Methylamine, *aqueous solution*							
	Monopropylamine	3.1	UN 1277	Flammable Liquid	II	1,2	5	
	Morpholine	3.3	UN 2054	Flammable Liquid	II	1,2	1,2	
	Motor fuel anti-knock mixtures	6.1	UN 1649	Poison	I	1	5	If flashpoint below 61 deg C segregation same as for flammable liquids
	Motor fuel, n.o.s.	3.1	(UN 1203)	Flammable Liquid	II	1,2	5	
	Motor spirit. *See* Gasoline							
	Muriatic acid. *See* Hydrochloric acid							
	Naphtha distillate	3.2	(UN 1268)	Flammable Liquid	II	1,2	1	
	Naphtha, petroleum	3.2	UN 1255	Flammable Liquid	II	1,2	1	
	Naphtha, solvent	3.2	UN 1256	Flammable Liquid	II	1,2	1	
	Naphthalene, *crude or refined*	4.1	UN 1334	Flammable Solid	III	1,2	1,2	
	Naphthylamine *(alpha)*	6.1	UN 2077	St. Andrews Cross	III	1,2	1,2	
	Naphthylamine *(beta)*	6.1	UN 1650	Poison	II	1,2	1,2	
	alpha-Naphthylthiourea	6.1	UN 1651	Poison	II	1,2	1,2	
	Naphthylurea	6.1	UN 1652	Poison	II	1,2	1,2	
	Napthalene, molten	4.1	UN 2304	Flammable Solid	III	1	1	Protect from sparks and open flame
	Natural gases with a high methane content. See Methane *or* natural gases, *etc.*							
	Natural gasoline. *See* Casinghead gasoline							
	Neohexane. *See* Dimethyl butane							
	Neon, *compressed*	2.2	UN 1065	Nonflammable Gas	–	1,2	1,2	
	Neon, *liquid*	2.2	UN 1913	Nonflammable Gas	–	1	5	
	Nickel carbonyl	3.1	UN 1259	Flammable Liquid, Poison	I	1	5	Keep cool. Prohibited on any ship carrying explosives
	Nickel catalyst, *finely divided, activated or spent, wetted with not less than 40% of water or other suitable liquid*	4.2	UN 1378	Spontaneously Combustible	II	1,2	1	
	Nickel cyanide	6.1	UN 1653	Poison	II	1,2	1,2	
	Nicotine	6.1	UN 1654	Poison	II	1,2	1,2	
	Nicotine, *(compounds and preparations)*, n.o.s.	6.1	UN 1655	Poison	I/II	1,2	1,2	
		6.1	UN 1655	St. Andrews Cross	III	1,2	1,2	
	Nicotine hydrochloride, *and solutions*	6.1	UN 1656	Poison	II	1,2	1,2	
	Nicotine salicylate	6.1	UN 1657	Poison	II	1,2	1,2	
	Nicotine sulphate, *solid or solution*	6.1	UN 1658	Poison	II	1,2	1,2	
	Nicotine tartrate	6.1	UN 1659	Poison	II	1,2	1,2	
	Nitrate of soda and potash, mixture. *See* Sodium nitrate and potash, *mixture*							
	Nitrates, *(inorganic)*, n.o.s.	5.1	UN 1477	Oxidizer	II	1,2	1,2	
	Nitrating acid. *See* Acid mixtures, *nitrating acid*							
N	Nitric acid, *other than red fuming, all concentrations*	8	UN 2031	Corrosive	I/II			
N	Nitric acid, *red fuming*	8	UN 2032	Corrosive, Oxidizer	I			
	Nitric oxide	2.3	UN 1660	Poison Gas, Oxidizer	–	1	5	Stow 'away from' foodstuffs and living quarters

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Nitric oxide and nitrogen tetroxide, *mixtures*	2.3	UN 1975	Poison Gas, Oxidizer	--	1	5	Stow 'away from' foodstuffs, organic materials and living quarters
	3-Nitro-4-chlorobenzotrifluoride	6.1	UN 2307	Poison	II	1,2	1,2	
	Nitroanilines *(o-, m-, p-)*	6.1	UN 1661	Poison	II	1,2	1,2	
	Nitrobenzene	6.1	UN 1662	Poison	II	1,2	1,2	
	Nitrobenzenesulphonic acid	8	UN 2305	Corrosive	II	1,2	1,2	
	Nitrobenzol. *See* Nitrobenzene							
	Nitrobenzotrifluoride	6.1	UN 2306	Poison	II	1,2	1,2	
	Nitrocellulose, *containing at least 25% alcohol, by weight, and not exceeding 12.6% nitrogen by dry weight*	4.1	UN 2556	Flammable Solid	I	1	5	Shade from radiant heat, keep away from heat and open flame
	Nitrocellulose, *containing at least 18% plasticizing substance, by weight, and not exceeding 12.6% nitrogen by dry weight*	4.1	UN 2557	Flammable Solid	I	1	1	Shade from radiant heat. Keep away from heat and open flame
	Nitrocellulose, *containing at least 25%, by weight, water*	4.1	UN 2555	Flammable Solid	II	1	5	Shade from radiant heat. Keep away from heat and open flame
	Nitrocellulose, *in solution in flammable liquids*	3.2 3.3	UN 2059 UN 2060	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Nitrocellulose, *wetted with, by weight, more than 40% flammable liquids*	3.2 3.3	-- --	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Nitrocresols	6.1	UN 2446	Poison	III	1,2	1,2	
	Nitrogen, *compressed*	2.2	UN 1066	Nonflammable Gas	--	1,2	1,2	
	Nitrogen dioxide	2.3	UN 1067	Poison Gas, Oxidizer	--	1	5	Stow 'away from' foodstuffs, organic materials and living quarters
	Nitrogen, *liquid*	2.2	UN 2040	Nonflammable Gas	--	1	5	
	Nitrogen trifluoride	2.3	UN 2451	Poison Gas	--	1	5	Stow 'away from' living quarters and organic materials
	Nitrogen trioxide	2.3	UN 2421	Poison Gas	--	1	5	Stow 'away from' living quarters and readily combustible substances
	Nitroglycerin solution, *up to 1% in alcohol. See* Glyceryl trinitrate, *solution*							
	Nitroguanidine, *wetted with not less than 20% of water*	4.1	UN 1336	Flammable Solid	I	1,2	5	
	Nitrohydrochloric acid	8	UN 1798	Corrosive	I	1	5	Stow 'away from' fluorides
	Nitromethane	3.3	UN 1261	Flammable Liquid	II	1,2	1,2	
	Nitromuriatic acid. *See* Nitrohydrochloric acid							
	Nitronapthalene	4.1	UN 2538	Flammable Solid	III	1,2	1,2	
	Nitrophenols *(o-, m-, p-)*	6.1	UN 1663	St. Andrews Cross	III	1,2	1,2	
	p-Nitrosodimethylaniline	4.2	UN 1369	Spontaneously Combustible	II	1,2	5	Stow 'away from' foodstuffs
	Nitrostarch, *wetted with not less than 20% of water*	4.1	UN 1337	Flammable Solid	I	1	5	
	Nitrosyl chloride	2.3	UN 1069	Poison Gas, Corrosive	--	1	5	Stow 'away from' foodstuffs and living quarters
	Nitrosylsulphuric acid	8	UN 2308	Corrosive	II	1	5	Stow 'away from' organic materials
	Nitrotoluenes *(o-, m-, p-)*	6.1	UN 1664	Poison	II	1,2	1,2	
	Nitrous oxide	2.2	UN 1070	Nonflammable Gas, Oxidizer	--	1,2	1,2	
	Nitroxylenes *(o-, m-, p-)*	6.1	UN 1665	Poison	II	1,2	1,2	
	Nonane	3.3	UN 1920	Flammable Liquid	II	1,2	1,2	
	n-Nonanoyl peroxide, *technical pure*	5.2	UN 2130	Organic Peroxide	II	1	5	Maximum transport temperature 0 deg C
	Nonyl trichlorosilane	8	UN 1799	Corrosive	II	1	1	Keep dry
	Octadecyl trichlorosilane	8	UN 1800	Corrosive	II	1	1	Keep dry
	Octafluorocyclobutane	2.2	UN 1976	Nonflammable Gas	--	1,2	1,2	
	Octane *and its isomers*	3.2	UN 1262	Flammable Liquid	II	1,2	1	
	n-Octanoyl peroxide, *technical pure*	5.2	UN 2129	Organic Peroxide	II	1	5	Maximum transport temperature 10 deg C
	Octyl trichlorosilane	8	UN 1801	Corrosive	II	1	1	Keep dry
	Oil gas	2.1	UN 1071	Flammable Gas, Poison Gas	--	1	5	Stow 'away from' living quarters
	Oleum. *See* Sulphuric acid, *fuming*							
	Organic peroxides, mixture (*this description must be supplemented with the name of the primary constituent of the mixture*)	5.2	UN 2756	Organic Peroxide	I/II	1	5	
	Organic peroxides, n.o.s.	5.2	UN 2255	Organic Peroxide	--			
	Organophosphates, *(poisonous)*, n.o.s.	6.1 6.1	UN 1893 UN 1893	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Osmium tetroxide	6.1	UN 2471	Poison	I	1,2	1	
	Oxalates, *water soluble*	6.1	UN 2449	St. Andrews Cross	III	1,2	1,2	
	Oxidizing substances, n.o.s.	5.1	UN 1479	Oxidizer	II	1,2	1,2	
	Oxygen and carbon dioxide, mixtures. See Carbon dioxide and oxygen *mixtures*							
	Oxygen, *compressed*	2.2	UN 1072	Nonflammable Gas, Oxidizer	--	1,2	1,2	
	Oxygen difluoride	2.3	UN 2190	Poison Gas	--	1	5	Keep dry. Stow 'away from' living quarters and readily combustible substances
	Oxygen, *liquid*	2.2	UN 1073	Nonflammable Gas, Oxidizer	--	1	5	Stow 'separate from' acetylene. Do not overstow
	Paint, enamel, lacquer, stain, shellac, varnish, polish, filler (liquid), lacquer base *and* thinner (*not including substances containing nitrocellulose for which See* Nitrocellulose.)	3.2 3.3	UN 1263 UN 1263	Flammable Liquid Flammable Liquid	II/III II/III	1,2 1,2	1 1,2	
	Paper, *treated with unsaturated oils, incompletely dried*	4.2	UN 1379	Spontaneously Combustible	III	1,2	1,2	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Paraformaldehyde	4.1	UN 2213	None. Package to be marked 'Class 4.1'	III	1,2	1,2	
	Paraldehyde	3.3	UN 1264	Flammable Liquid	III	1,2	1,2	
	Parathion, *and mixtures, solid, liquid or under compressed gas*	6.1	UN 1668	Poison	I/II	1,2	1,2	Shade cylinders from radiant heat.
		6.1	UN 1668	St. Andrews Cross	III	1,2	1,2	Shade cylinders from radiant heat
	Pentaborane	4.2	UN 1380	Spontaneously Combustible	I	1	5	
	Pentachloroethane	6.1	UN 1669	Poison	II	1,2	1,2	
	Pentane	3.1	UN 1265	Flammable Liquid	I	1,2	5	
	Peracetic acid, *maximum concentration 43% in acetic acid or in a mixture of acetic acid and water, with in either case not more than 6% hydrogen peroxide and not more than 1% sulphuric acid*	5.2	UN 2131	Organic Peroxide, Corrosive	I	1	5	
	Perborates, *(inorganic)*, n.o.s.	5.1	UN 1480	Oxidizer	II	1,2	1,2	
	Perchlorates, *(inorganic)*, n.o.s.	5.1	UN 1481	Oxidizer	II	1,3	1,3	Stow 'away from' powdered metals
	Perchloric acid, *not exceeding 50%, by weight, of acid*	8	UN 1802	Corrosive, Oxidizer	II	1	1	Stow 'away from' hydrazine
	Perchloric acid, *over 50% and not exceeding 72% of acid*	5.1	UN 1873	Oxidizer, Corrosive	I	1	5	
	Perchloroethylene. *See* Tetrachloroethylene							
	Perchloromethyl-mercaptan	6.1	UN 1670	Poison	I	1	5	
	Perchloryl fluoride	2.3	(UN 1955)	Poison Gas	–	1	5	Stow 'away from' living quarters and readily combustible substances
	Perfumery products, *flammable liquid*	3.2	UN 1266	Flammable Liquid	II	1,2	1	
		3.3	UN 1266	Flammable Liquid	II	1,2	1,2	
	Permanganates, *(inorganic)*, n.o.s.	5.1	UN 1482	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds, hydrogen peroxide and strong liquid acids
	Peroxides, *(metallic)*, n.o.s.	5.1	UN 1483	Oxidizer	II	1,2	1,2	
	Pesticides, *(high hazard, solid or liquid)*, n.o.s.	6.1	UN 2588	Poison	I/II	1,2	1,2	Stow 'separate from' foodstuffs.
		6.1	UN 2588	St. Andrews Cross	III	1,2	1,2	Stow 'away from' foodstuffs
	Pesticides, *(liquid, non-toxic)*, n.o.s.	3.2	UN 1996	Flammable Liquid	II	1,2	1	
		3.3	UN 1996	Flammable Liquid	II	1,2	1,2	
	Pesticides, *(liquid, toxic)*, n.o.s.	3.2	UN 1995	Flammable Liquid, Poison	II	1,2	1	
		3.3	UN 1995	Flammable Liquid, Poison	II	1,2	1,2	
	Pesticides, *(low hazard, solid or liquid)*, n.o.s.	9		None	III	1,2	1,2	Stow 'away from' foodstuffs
	Petrol. *See* Gasoline							
	Petroleum crude oil	3.1	UN 1267	Flammable Liquid	II	1,2	5	
		3.2	UN 1267	Flammable Liquid	II	1,2	1	
		3.3	UN 1267	Flammable Liquid	II	1,2	1,2	
	Petroleum distillates, n.o.s.	3.1	UN 1268	Flammable Liquid	II	1,2	5	
		3.2	UN 1268	Flammable Liquid	II	1,2	1	
		3.3	UN 1268	Flammable Liquid	II	1,2	1,2	
	Petroleum ether. *See* Petroleum spirit							
	Petroleum gases, *liquefied*	2.1	UN 1075	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Petroleum oil	3.1	UN 1270	Flammable Liquid	II	1,2	5	
		3.2	UN 1270	Flammable Liquid	II	1,2	1	
		3.3	UN 1270	Flammable Liquid	II	1,2	1,2	
	Petroleum spirit	3.1	UN 1271	Flammable Liquid	II	1,2	5	
		3.2	UN 1271	Flammable Liquid	II	1,2	1	
		3.3	UN 1271	Flammable Liquid	II	1,2	1,2	
	Phenetidines	6.1	UN 2311	St. Andrews Cross	III	1,2	1,2	
	Phenol	6.1	UN 1671	Poison	II	1,2	1,2	
	Phenolsulphonic acid, *liquid*	8	UN 1803	Corrosive	II	1,2	1	Metal drums only under deck
	Phenyl isocyanate	6.1	UN 2487	Poison	II	1	5	Shade from radiant heat
	Phenyl trichlorosilane	8	UN 1804	Corrosive	II	1	1	Keep dry
	Phenylacetonitrile. *See* Benzyl cyanide, *liquid*							
	Phenylcarbylamine chloride	6.1	UN 1672	Poison	I	1	5	
	Phenylenediamines *(o-, m-, p-)*	6.1	UN 1673	St. Andrews Cross	III	1,2	1,2	
	Phenylhydrazine	6.1	UN 2572	Poison	II	1,2	1,2	
	Phenylmercuric acetate	6.1	UN 1674	Poison	II	1,2	1,2	
	Phenylmercuric compounds, n.o.s.	6.1	UN 2026	Poison	I/II	1,2	1,2	
		6.1	UN 2026	St. Andrews Cross	III	1,2	1,2	
	Phenylmercuric hydroxide	6.1	UN 1894	Poison	II	1,2	1,2	
	Phenylmercuric nitrate	6.1	UN 1895	Poison	II	1,2	1,2	
	Phosgene	2.3	UN 1076	Poison Gas, Corrosive	–	1	5	Stow 'away from' living quarters
	Phosphine	2.3	UN 2199	Poison Gas, Flammable Gas	–	1	5	Stow 'away from' living quarters
	o-Phosphoric acid, *liquid*	8	UN 1805	Corrosive	III	1,2	1,2	Glass carboys in hampers prohibited under deck. Keep dry
	o-Phosphoric acid, *solid*	8	UN 1805	Corrosive	III	1,2	1,2	
	Phosphoric anhydride. *See* Phosphorus pentoxide							
	Phosphorous bromide. *See* Phosphorus tribromide.							
	Phosphorous chloride. *See* Phosphorus trichloride							
	Phosphorus, *amorphous*	4.1	UN 1338	Flammable Solid	III	1,2	1,2	
	Phosphorus heptasulphide, *free from yellow or white phosphorus*	4.1	UN 1339	Flammable Solid	II	1,2	1	Stow 'separate from' oxidizing substances
	Phosphorus oxybromide	8	UN 1939	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Phosphorus oxychloride. *See* Phosphoryl chloride							
	Phosphorus pentachloride	8	UN 1806	Corrosive	II	1	1	Keep dry

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Phosphorus pentafluoride	2.3	UN 2198	Poison Gas	--	1	5	Stow 'away from' living quarters
	Phosphorus pentasulphide, *free from yellow or white phosphorus*	4.1	UN 1340	Flammable Solid	II	1,2	1,2	Stow 'separate from' oxidizing substances
	Phosphorus pentoxide	8	UN 1807	Corrosive	II	1,2	1,2	Glass bottles prohibited under deck
	Phosphorus sesquisulphide, *free from yellow or white phosphorus*	4.1	UN 1341	Flammable Solid	II	1,2	1	Stow 'separate from' oxidizing substances
	Phosphorus tribromide	8	UN 1808	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Phosphorus trichloride	8	UN 1809	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Phosphorus trifluoride	2.3	(UN 1955)	Poison Gas	--	1	5	Stow 'away from' living quarters
	Phosphorus trisulphide, *free from yellow or white phosphorus*	4.1	UN 1343	Flammable Solid	II	1,2	1	Stow 'separate from' oxidizing substances
	Phosphorus white, molten	4.2	UN 2447	Spontaneously Combustible	I	1	5	
	Phosphorus, *white or yellow, dry*	4.2	UN 1381	Spontaneously Combustible	I	1,2	5	
	Phosphorus, *white or yellow, in water*	4.2	UN 1381	Spontaneously Combustible	I	1,2	5	
	Phosphoryl chloride	8	UN 1810	Corrosive	II	1	1	Glass carboys prohibited on passenger vessels
	Phthalic anhydride, *dust, powder or molten liquid*	8	UN 2214	None	III	1,2	1,2	Stow 'away from' foodstuffs and oxidizing substances
	Picric acid, *wetted with not less than 10% of water*	4.1	UN 1344	Flammable Solid	I	1	5	Stow 'away from' heavy metals and their compounds
	Picric acid, *wetted with not less than 30% of water*	4.1	UN 1344	Flammable Solid	I	1,2	5	Stow 'away from' heavy metals and their compounds
	Pinane hydroperoxide, *technical pure*	5.2	UN 2162	Organic Peroxide	I	1	5	
	Pine oil	3.3	UN 1272	Flammable Liquid	III	1,2	1,2	
	Pivaloyl chloride	8	UN 2438	Corrosive, Flammable Liquid	II	1	5	Shade from radiant heat. Segregation same as for flammable liquids
	Plastics moulding materials *evolving flammable vapours*	9	UN 2211	None	III	1,2	1,2	
	Plastics, *(spontaneously combustible)*, n.o.s.	4.2	UN 2006	Spontaneously Combustible	III	1	5	
	Poisonous liquids, n.o.s.	6.1	UN 2810	Poison	I/II	1,2	1	
		6.1	UN 2810	St. Andrews Cross	III	1,2	1,2	
	Poisonous solids, n.o.s.	6.1	UN 2811	Poison	I/II	1,2	1	
		6.1	UN 2811	St. Andrews Cross	III	1,2	1,2	
	Polishes. *See* Paints, *etc.*							
	Polishing fluid. *See* Flammable liquid preparations, n.o.s.							
	Polystyrene beads, *expandable, containing flammable liquid. See* Plastics moulding materials							
	Potassium arsenate	6.1	UN 1677	Poison	II	1,2	1,2	
	Potassium arsenite	6.1	UN 1678	Poison	II	1,2	1,2	
	Potassium bifluoride, *solid*	8	UN 1811	Corrosive	II	1,2	1,2	Keep dry
	Potassium bifluoride, *solution*	8	UN 1811	Corrosive	II	1,2	1,2	
	Potassium borohydride	4.3	UN 1870	Dangerous When Wet	I	1,2	5	
	Potassium bromate	5.1	UN 1484	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and 'away from' powdered metals
	Potassium chlorate	5.1	UN 1485	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and 'away from' powdered metals
	Potassium cuprocyanide	6.1	UN 1679	Poison	II	1,2	1,2	Stow 'away from' acids
	Potassium cyanide	6.1	UN 1680	Poison	I	1,2	1,2	Stow 'away from' acids
	Potassium dithionite	4.2	UN 1929	Spontaneously Combustible	II	1,2	5	Keep dry
	Potassium fluoride	6.1	UN 1812	St. Andrews Cross, Corrosive	III	1,2	1,2	Stow 'away from' acids
	Potassium hydrogen fluoride. *See* Potassium bifluoride, *solution*							
	Potassium hydroxide, *solid*	8	UN 1813	Corrosive	II	1,2	1,2	Keep dry
	Potassium hydroxide, *solution*	8	UN 1814	Corrosive	II	1,2	1,2	
	Potassium hypochlorite, *solution. See* Hypochlorite, *solutions, etc.*							
	Potassium metal	4.2	UN 2257	Spontaneously Combustible	II	1,2	5	
	Potassium, metal alloys	4.3	UN 1420	Dangerous When Wet	II	1,2	5	
	Potassium metavanadate	6.1	UN 2864	Poison	II	1,2	1,2	
	Potassium nitrate	5.1	UN 1486	Oxidizer	III	1,2	1,2	
	Potassium nitrate and sodium nitrite, *mixture*	5.1	UN 1487	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and cyanides, and 'away from' foodstuffs
	Potassium nitrate bags, *empty. See* Bags, *empty and unwashed, etc.*							
	Potassium nitrite	5.1	UN 1488	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and cyanides, and 'away from' foodstuffs
	Potassium oxide	8	UN 2033	Corrosive	II	1,2	1,2	Keep dry
	Potassium perchlorate	5.1	UN 1489	Oxidizer	II	1,2	1,2	Stow 'away from powdered metals
	Potassium permanganate	5.1	UN 1490	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and hydrogen peroxide
	Potassium peroxide	5.1	UN 1491	Oxidizer	I	1,2	1,2	Keep dry
	Potassium persulphate	5.1	UN 1492	Oxidizer	III	1,2	1,2	
	Potassium phosphide	4.3	UN 2012	Dangerous When Wet, Poison	I	1	5	
	Potassium silicofluoride, *solid*	6.1	UN 2655	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Potassium-sodium, *alloy*	4.3	UN 1422	Dangerous When Wet	I	1,2	5	

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Potassium sulphide, *anhydrous or containing less than 30% water of crystallization*	4.2	UN 1382	Spontaneously Combustible	II	1,2	1,2	Stow 'separate from' liquid acids
	Potassium sulphide, *hydrated, containing not less than 30% water of crystallization*	8	UN 1847	Corrosive	II	1,2	1,2	Stow 'separate from' explosives and acids
	Primers, cannon	1.4 G	UN 0320	Explosive (1.4G)	--	1,3	1,3	
	Primers, cap type	1.4B	UN 0378	Explosive (1.4B)	--	1,3	1,3	
		1.4S	UN 0044	None. Package to be marked '1.4S'	--	1,3	1,3	
	Primers, tubular	1.4G	UN 0320	Explosive (1.4G)	--	1,3	1,3	
		1.4S	UN 0376	None. Package to be marked '1.4S'	--	1,3	1,3	
	Projectiles, *inert, with tracer*	1.4 S	UN 0345	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Propane	2.1	UN 1978	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Propanol	3.2	UN 1274	Flammable Liquid	II	1,2	1	
	Propionaldehyde	3.2	UN 1275	Flammable Liquid	II	1,2	1	
	Propionic acid, *solution containing not less than 80% acid*	8	UN 1848	Corrosive	III	1,2	1,2	Stow 'separated by a complete compartment or hold from' organic peroxides, and 'separated longitudinally by and intervening complete compartment or hold from' explosives
	Propionic anhydride	8	UN 2496	Corrosive	III	1,2	1,2	Keep dry. Glass carboys prohibited on passenger vessels
	Propionyl chloride	8	UN 1815	Corrosive, Flammable Liquid	II	1	1	Keep dry. Stow 'separated longitudinally by an intervening complete compartment or hold from' explosives
	Propionyl peroxide, *maximum concentration 28% in solution*	5.2	UN 2132	Organic Peroxide	II	1	5	Maximum transport temperature 15 deg C
	n-Propyl acetate	3.2	UN 1276	Flammable Liquid	II	1,2	1	
	sec-Propyl alcohol. *See* Isopropanol							
	n-Propyl alcohol. *See* Propanol							
	Propyl chloride	3.1	UN 1278	Flammable Liquid	II	1,2	5	Keep cool
	Propyl formates	3.2	UN 1281	Flammable Liquid	II	1,2	1	
	n-Propyl nitrate	3.2	UN 1865	Flammable Liquid	II	1,2	1	
	Propyl trichlorosilane	8	UN 1816	Corrosive	II	1	1	Keep dry. Stow 'separated longitudinally by an intervening compartment or hold from' explosives
	Propylamine. *See* Monopropylamine							
	Propylene	2.1	UN 1077	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Propylene dichloride	3.2	UN 1279	Flammable Liquid	II	1,2	1	
	Propylene oxide, *inhibited*	3.1	UN 1280	Flammable Liquid	I	1,2	5	Keep cool
	Propyleneimine, *inhibited*	3.2	UN 1921	Flammable Liquid	I	1,2	1	
	Pyridine	3.2	UN 1282	Flammable Liquid, Poison	II	1,2	1	
	Pyrophoric alloys	4.2	UN 1383	Spontaneously Combustible	II	1	5	
	Pyrophoric fuel, n.o.s.	4.2	UN 1375	Spontaneously Combustible	I	1	5	Prohibited on vessels carrying explosives
	Pyrophoric liquids, n.o.s.. *See* Pyrophoric fuel, n.o.s.							
	Pyrophoric metals	4.2	UN 1383	Spontaneously Combustible	II	1	5	
	Pyrosulphuryl chloride	8	UN 1817	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Pyroxylin. *See* Nitrocellulose							
	Pyrrolidine	3.2	UN 1922	Flammable Liquid	II	1,2	1	
	R 12. See Dichlorodifluoromethane							
	R 22. See Chlorodifluoromethane							
	Rags, *oily*	4.2	UN 1856	Spontaneously Combustible	III	1,2	1,2	Keep dry.
	Rare gases, *mixtures*	2.2	UN 1979	Nonflammable Gas	--	1,2	1,2	
	Rare gases, *mixtures with* nitrogen	2.2	UN 1981	Nonflammable Gas	--	1,2	1,2	
	Rare gases, *mixtures with* oxygen	2.2	UN 1980	Nonflammable Gas	--	1,2	1,2	
	Receptacles, *small, containing flammable compressed gas, not fitted with a dispersion device, not refillable*	2.1	UN 2037	Flammable Gas	--			
	Reducing liquid. *See* Flammable liquid preparation, n.o.s.							
	Refrigerant gases, n.o.s.	2.1	UN 1078	Flammable Gas	--	1	1	
		2.2	UN 1078	Nonflammable Gas	--	1,2	1,2	
	Release devices, explosive	1.4 S	UN 0173	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Removing liquid. *See* Flammable liquid preparations, n.o.s.							
	Resin, *solution in flammable liquid*	3.2	UN 1866	Flammable Liquid	II	1,2	1	
		3.3	UN 1866	Flammable Liquid	II	1,2	1,2	
	Rivets, explosive	1.4 S	UN 0174	None. Package to be marked '1.4 S'	--	1,3	1,3	
	Road asphalt, *liquid, tars or oil. See* Cut-backs, *asphalt or bitumen*							
	Rodenticides, n.o.s.	6.1	UN 1681	Poison	I/II	1,2	1,2	Stow 'separate from' foodstuffs.
		6.1	UN 1681	St. Andrews Cross	III	1,2	1,2	Stow 'separate from' foodstuffs.
		9	UN 1681	None	III	1,2	1,2	Stow 'away from' foodstuffs
	Rosin oil	3.2	UN 1286	Flammable Liquid	III	1,2	1	
		3.3	UN 1286	Flammable Liquid	III	1,2	1,2	
	Rubber scrap, *powdered or granulated*	4.1	UN 1345	Flammable Solid	II	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Rubber shoddy. *See* Rubber scrap							
	Rubber solution	3.2 3.3	UN 1287 UN 1287	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Rubidium, *(metal)*	4.3	UN 1423	Dangerous When Wet	I	1,2	5	
	Sand acid. *See* Fluosilicic acid							
	Seed cake, *containing vegetable oil, mechanically expelled seeds, containing more than 10% of oil or more than 20% of oil and moisture combined*	4.2	UN 1386	None. Package to be marked 'Class 4.2'	III	1,2	5	
	Seed cake, *containing vegetable oil, solvent extractions and expelled seeds, containing not more than 10% of oil and, when the amount of moisture is higher than 10%, not more than 20% of oil and moisture combined*	4.2	UN 1386	None. Package to be marked 'Class 4.2'	III	1,2	1,2	
	Seed cake, *containing vegetable oil, solvent extractions containing not more than 1.5% of oil and 11% of moisture*	4.2	UN 2217	None. Package to be marked 'Class 4.2'	III	1,2	1,2	
	Selenic acid	8	UN 1905	Corrosive	I	1,2	1,2	Keep dry
	Selenium hexafluoride	2.3	UN 2194	Poison Gas	–	1	5	Stow 'away from' living quarters
	Shale oil	3.2 3.3	UN 1288 UN 1288	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Sheep dips, *(poisonous)*, n.o.s.	6.1 6.1 9	UN 1682 UN 1682 UN 1682	Poison St. Andrews Cross None	I/II III III	1,2 1,2 1,2	1,2 1,2 1,2	Stow 'separate from' foodstuffs. Stow 'separate from' foodstuffs. Stow 'away from' foodstuffs.&
	Shellac. *See* Paints, *etc.*							
	Signal devices, hand	1.4S	UN 0373	None. Package to be marked '1.4S'	–	1,3	1,3	
	Signal devices, hand	1.4 G	UN 0191	Explosive (1.4G)	–	1,3	1,3	
	Signals, smoke, *without explosive sound unit*	1.4 G	UN 0197	Explosive (1.4G)	–	1,3	1,3	
	Silane	2.3	UN 2203	Poison Gas, Flammable Gas	–	1	5	Shade from radiant heat. Stow 'away from' living quarters, 'separate from' oxidizers
	Silicofluoric acid. *See* Fluosilicic acid							
	Silicofluorides, *solid*, n.o.s.	6.1	(UN 2811)	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Silicon chloride. *See* Silicon tetrachloride							
	Silicon powder, *amorphous*	4.1	UN 1346	Flammable Solid	III	1,2	1,2	
	Silicon tetrachloride	8	UN 1818	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Silicon tetrafluoride	2.3	UN 1859	Poison Gas, Corrosive	–	1	5	
	Silver arsenite	6.1	UN 1683	Poison	II	1,2	1,2	
	Silver cyanide	6.1	UN 1684	Poison	II	1,2	1,2	Stow 'away from' strong liquid acids
	Silver nitrate	5.1	UN 1493	Oxidizer	II	1,2	1,2	Stow 'away from' foodstuffs
	Sisal, dry. See Fibre, *vegetable, dry*							
	Sludge acid	8	UN 1906	Corrosive	II	1,2	1	Stow 'away from' fluorides. Metal drums only under deck
	Soda lime	8	UN 1907	Corrosive	III	1,2	1,2	Keep dry
	Sodium aluminate, *solution*	8	UN 1819	Corrosive	II	1,2	1,2	
	Sodium amalgam	4.3	UN 1424	Dangerous When Wet	I	1,2	1,2	
	Sodium amide	4.3	UN 1425	Dangerous When Wet	II	1,2	5	
	Sodium-ammonium-vanadate	6.1	UN 2863	Poison	II	1,2	1,2	
	Sodium arsanilate	6.1	UN 2473	St. Andrews Cross	III	1,2	1,2	
	Sodium arsenate	6.1	UN 1685	Poison	II	1,2	1,2	
	Sodium arsenite, *aqueous solutions*	6.1 6.1	UN 1686 UN 1686	Poison St. Andrews Cross	I/II III	1,2 1,2	1,2 1,2	
	Sodium arsenite, *solid*	6.1	UN 2027	Poison	II	1,2	1,2	Stow 'away from' oxidizers and organic peroxides
	Sodium azide	6.1	UN 1687	Poison	II	1,2	1,2	Stow 'away from' heavy metals and their compounds, 'separate from' acids
	Sodium bisulphate, *solid. See* Sodium hydrogen sulphate							
	Sodium bisulphite, *solution. See* Sodium hydrogen sulphite, *solution*							
	Sodium borohydride	4.3	UN 1426	Dangerous When Wet	I	1,2	5	
	Sodium bromate	5.1	UN 1494	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds
	Sodium cacodylate	6.1	UN 1688	Poison	II	1,2	1,2	Stow 'away from' acids
	Sodium chlorate	5.1	UN 1495	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds.
	Sodium chlorite	5.1	UN 1496	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds
	Sodium chlorite, *solution containing more than 5% available chlorine*	8	UN 1908	Corrosive	II	1,2	1	Glass carboys in hampers not permitted under deck
	Sodium cuprocyanide, *solid*	6.1	UN 2316	Poison	I	1,2	1,2	Keep dry. Stow 'separate from' acids
	Sodium cyanide	6.1	UN 1689	Poison	I	1,2	1,2	Stow 'away from' acids
	Sodium dinitro-o-cresolate, *wetted with not less than 10% of water*	4.1	UN 1348	Flammable Solid, Poison	I	1	5	Stow 'away from' heavy metals and their compounds
	Sodium dinitro-o-cresolate, *wetted with not less than 15% of water*	4.1	UN 1348	Flammable Solid, Poison	I	1,2	5	Stow 'away from' heavy metals and their compounds
	Sodium dithionite	4.2	UN 1384	Spontaneously Combustible	II	1,2	1,2	New metal drums only under deck
	Sodium fluoride, *solid*	6.1	UN 1690	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Sodium fluoride, *solution*	6.1	(UN 2810)	Poison	II	1,2	1,2	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Sodium hydrate. *See* Sodium hydroxide, *solution*							
	Sodium hydride	4.3	UN 1427	Dangerous When Wet	I	1,2	5	
	Sodium hydrogen fluoride	8	UN 2439	Corrosive	II	1,2	1,2	Keep cool and dry
	Sodium hydrogen sulphate, *containing more than 3% free acid*	8	UN 1821	Corrosive	II	1,2	1,2	
	Sodium hydrogen sulphite, *solution*	8	UN 1909	Corrosive	II	1,2	1,2	
	Sodium hydrosulphide, *solid*	4.2	UN 2318	Spontaneously Combustible	II	1,2	1,2	
	Sodium hydroxide, *solid*	8	UN 1823	Corrosive	II	1,2	1,2	Keep dry
	Sodium hydroxide, *solution*	8	UN 1824	Corrosive	II	1,2	1,2	
	Sodium, *(metal)*	4.3	UN 1428	Dangerous When Wet	II	1,2	5	
	Sodium *metal, dispersion in organic liquids*	4.3	UN 1429	Dangerous When Wet	I	1,2	5	
	Sodium methylate	4.3	UN 1431	Dangerous When Wet	I	1,2	1	
	Sodium methylate, *solutions in alcohol*	3.2 3.3	UN 1289 UN 1289	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Sodium monoxide	8	UN 1825	Corrosive	II	1,2	1,2	Keep dry
	Sodium nitrate	5.1	UN 1498	Oxidizer	III	1,2	1,2	
	Sodium nitrate and potash, *mixture*	5.1	UN 1478	Oxidizer	II	1,2	1,2	
	Sodium nitrate and potassium nitrate, *mixtures*	5.1	UN 1499	Oxidizer	III	1,2	1,2	
	Sodium nitrate bags, *empty. See* Bags, *empty and unwashed, etc.*							
	Sodium nitrite	5.1	UN 1500	Oxidizer	II	1,2	1,2	
	Sodium pentachlorophenate	6.1	UN 2567	Poison	II	1,2	1,2	
	Sodium perchlorate	5.1	UN 1502	Oxidizer	II	1,2	1,2	Stow 'away from' foodstuffs, 'separate from' ammonium compounds and cyanides. Paper bags prohibited on passenger vessels
	Sodium permanganate	5.1	UN 1503	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and hydrogen peroxide
	Sodium peroxide	5.1	UN 1504	Oxidizer	I	1,2	1	Keep dry. Stow 'away from' powdered metals, permanganates, and combustible packagings and cargo
	Sodium persulphate	5.1	UN 1505	Oxidizer	III	1,2	1,2	
	Sodium phenolate, *solid*	8	UN 2497	Corrosive	III	1,2	1,2	
	Sodium phosphide	4.3	UN 1432	Dangerous When Wet, Poison	I	1	5	
	Sodium picramate, *wetted with not less than 20% of water*	4.1	UN 1349	Flammable Solid	I	1,2	5	Stow 'away from' heavy metals and their compounds
	Sodium-potassium, *alloy. See* Potassium-sodium, *alloy*							
	Sodium silicofluoride, *solid*	6.1	UN 2674	St. Andrews Cross	III	1,2	1,2	Stow 'away from' acids
	Sodium sulphide, *anhydrous or containing less than 30% water of crystallization*	4.2	UN 1385	Spontaneously Combustible	II	1,2	1,2	Stow 'separate from' acids
	Sodium sulphide, *hydrated, containing not less than 30% water of crystallization*	9	UN 1849	None	II	1,2	1,2	Stow 'separate from' explosives and acids
	Solvents, *(non-toxic)*, n.o.s.	3.2 3.3	UN 1998 UN 1998	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Solvents, *(toxic)*, n.o.s.	3.2 3.3	UN 1997 UN 1997	Flammable Liquid, Poison Flammable Liquid, Poison	II II	1,2 1,2	1 1,2	
	Spent mixed acid. See Acid mixtures, *spent*							
	Spirits of salts. *See* Hydrochloric acid							
	Squibs	1.4 S	UN 0206	None. Package to be marked '1.4 S'	–	1,3	1,3	
	Stains. *See* Paints, *etc.*							
	Stannic chloride, *anhydrous*	8	UN 1827	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Stannic chloride pentahydrate	8	UN 2440	Corrosive	III	1,2	1,2	Keep dry
	Stannic phosphides	4.3	UN 1433	Dangerous When Wet	I	1	5	
	Steel swarf. *See* Iron swarf							
	Stibine	2.3	(UN 1953)	Poison Gas, Flammable Gas	–	1	5	Stow 'away from' living quarters
	Straw	4.1	UN 1327	None	III	1,2	1,2	Stow 'away from' animal or vegetable oils
	Strike anywhere matches. *See* Matches, *strike anywhere*							
	Strontium, *alloys, non-pyrophoric*	4.3	UN 1434	Dangerous When Wet	II	1,2	5	
	Strontium arsenite	6.1	UN 1691	Poison	II	1,2	1,2	
	Strontium chlorate	5.1	UN 1506	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds
	Strontium nitrate	5.1	UN 1507	Oxidizer	III	1,2	1,2	
	Strontium perchlorate	5.1	UN 1508	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals
	Strontium peroxide	5.1	UN 1509	Oxidizer	II	1,2	1,2	Keep dry
	Strontium phosphide	4.3	UN 2013	Dangerous When Wet, Poison	I	1	5	
	Strontium, powdered. See Pyrophoric metals							
	Strychnine, *and salts*	6.1	UN 1692	Poison	I	1,2	1,2	
	Styrene monomer, *inhibited*	3.3	UN 2055	Flammable Liquid	II	1,2	1,2	
	Succinic acid peroxide, *technical pure*	5.2	UN 2135	Organic Peroxide	I	1	5	
	Sulphides, n.o.s.	4.2	–	Spontaneously Combustible	III	1	5	
	Sulphur chlorides	8	UN 1828	Corrosive	I	1	1	Keep dry. Glass carbons prohibited on passenger vessels

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Sulphur dichloride. See Sulphur chlorides							
	Sulphur dioxide	2.3	UN 1079	Poison Gas	--	1,2	5	Stow 'away from' living quarters
	Sulphur hexafluoride	2.2	UN 1080	Nonflammable Gas	--	1,2	1,2	
	Sulphur, *lump or powder*	4.1	UN 1350	Flammable Solid	III	1,2	1,2	Protect from sparks and open flame. Stow 'separate from' oxidizing substances
	Sulphur, molten	4.1	UN 2448	Flammable Solid	III	1	1	Stow 'separate from' oxidizers, 'away from' living quarters. Protect from sparks and open flame
	Sulphur tetrafluoride	2.3	UN 2418	Poison Gas	--	1	5	Stow 'away from' living quarters
	Sulphur trioxide, *stabilized*	8	UN 1829	Corrosive	I	1,2	1,2	Keep dry. Glass bottles not permitted under deck. Stow 'away from' other corrosives except nitric and sulphuric acids
	Sulphuric acid, *containing more than 51% acid*	8	UN 1830	Corrosive	II	1,2	1	Stow 'away from' fluorides and all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids
	Sulphuric acid, *containing not more than 51% acid*	8	UN 1830	Corrosive	II	1,2	1	Stow 'away from' fluorides. Glass carboys in hampers not permitted under deck
	Sulphuric acid, *fuming*	8	UN 1831	Corrosive	I	1,2	1	Stow 'away from' fluorides and all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids
	Sulphuric acid, *spent*	8	UN 1832	Corrosive	II	1,2	1	Stow 'away from' fluorides. For concentrations of more than 51% acid, stow 'away from' all other corrosives except nitric acids, sulphur trioxide and other sulphuric acids
	Sulphuric and hydrofluoric acid, mixtures. See Acid mixtures, *hydrofluoric and sulphuric*							
	Sulphuric anhydride. *See* Sulphur trioxide, *stabilized*							
	Sulphurous acid	8	UN 1833	Corrosive	II	1,2	1	Glass carboys in hampers not permitted under deck
	Sulphuryl chloride	8	UN 1834	Corrosive	I	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Sulphuryl fluoride	2.2	UN 2191	Nonflammable Gas, Corrosive	--	1,2	5	Stow 'away from' living quarters
	T.E.L. See Motor fuel anti-knock mixtures							
	Tars, *liquid. See* Cut-backs, *asphalt or bitumen*							
	Tear gas candles, *non-explosive*	6.1	UN 1700	Poison	II	1	5	
	Tear gas grenades, *non-explosive. See* Tear gas candles							
	Tear gas, *(irritating substances, liquid or solid)*, n.o.s.	6.1 6.1	UN 1693 UN 1693	Poison St. Andrews Cross	I/II III	1 1	5 5	
	Tellurium hexafluoride	2.3	UN 2195	Poison Gas	--	1	5	Stow 'away from' living quarters
	Tetrabromoethane. *See* Acetylene tetrabromide							
	1,1,2,2-Tetrachloroethane	6.1	UN 1702	Poison	II	1,2	1,2	
	Tetrachloroethylene	6.1	UN 1897	St. Andrews Cross	III	1,2	1,2	
	Tetraethyl dithiopyrophosphate, *liquid and mixtures*	6.1 6.1	UN 1704 UN 1704	Poison St. Andrews Cross	I/II III	1 1	5 5	
	Tetraethyl dithiopyrophosphate with gases, *including solutions and mixtures thereof*	6.1 6.1	UN 1703 UN 1703	Poison, Nonflammable Compressed Gas St. Andrews Cross	I/II III	1 1	5 5	
	Tetraethyl lead. *See* Motor fuel anti-knock mixtures							
	Tetraethyl pyrophosphate and compressed gas, *mixture*	6.1 6.1	UN 1705 UN 1705	Poison, Nonflammable Compressed Gas St. Andrews Cross	I/II III	1 1	5 5	Shade from radiant heat. Segregation same as for nonflammable gases Shade from radiant heat. Segregation same as for nonflammable gases
	Tetraethyl silicate	3.3	UN 1292	Flammable Liquid	II	1,2	1,2	
	Tetraethylenepentamine	8	UN 2320	Corrosive	III	1,2	1,2	Glass carboys prohibited on passenger vessels
	Tetrafluoroethylene, *inhibited*	2.2	UN 1081	Nonflammable Gas	--	1,2	1,2	Stow 'away from' living quarters
	Tetrafluorohydrazine	2.3	(UN 1955)	Poison Gas	--	11	5	Stow 'away from' living quarters and readily combustible substances, 'separate from' hydrogen
	Tetrafluoromethane	2.2	UN 1982	Nonflammable Gas	--	1,2	1,2	
	Tetrahydrofuran	3.1	UN 2056	Flammable Liquid	II	1,2	5	Keep cool
	Tetralin hydroperoxide, *technical pure*	5.2	UN 2136	Organic Peroxide	I	1	5	
	1,1,3,3-Tetramethyl butyl hydroperoxide, *technical pure*	5.2	UN 2160	Organic Peroxide	II	1	5	
	1,1,3,3-Tetramethyl butyl peroxy-2-ethyl hexanoate, *technical pure*	5.2	UN 2161	Organic Peroxide	I	1	5	Maximum transport temperature 20 deg C
	Tetramethylammonium hydroxide	8	UN 1835	Corrosive	II	1,2	1,2	
	Tetranitromethane	5.1	UN 1510	Oxidizer	I	1	5	Shade from radiant heat. Stow 'away from' foodstuffs
	Textile waste, *(wet)*, n.o.s.	4.2	UN 1857	Spontaneously Combustible	III	1,2	1,2	
	Thallium chlorate	5.1	UN 2573	Oxidizer, POIsoN	II	1,2	1,2	
	Thallium compounds	6.1	UN 1707	Poison	II	1,2	1,2	
	Thinners. *See* Paints, *etc.*							
	Thinning liquid. *See* Flammable liquid preparations, n.o.s.							
	Thiocarbonyl chloride. See Thiophosgene							
	Thioglycolic acid	8	UN 1940	Corrosive	II	1,2	1,2	Glass carboys in hampers prohibited under deck
	Thionyl chloride	8	UN 1836	Corrosive	I	1	1	Keep dry. Glass carboys prohibited on passenger vessels

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172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Thiophosgene	6.1	UN 2474	Poison	II	1,2	1	Stow 'away from' acids
	Thiophosphoryl chloride	8	UN 1837	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Tin chloride, *fuming. See* Stannic chloride, *anhydrous*							
	Tin tetrachloride. *See* Stannic chloride, *anhydrous*							
	Tinctures, *medicinal*	3.2	UN 1293	Flammable Liquid	II	1,2	1	
	Titanium hydride	4.1	UN 1871	Flammable Solid	II	1,2	5	
	Titanium metal powder, dry	4.2	UN 2546	Spontaneously Combustible	II	1,2	5	
	Titanium metal powder, wet, *with not less than 25% water (a visible excess of water must be present)*	4.1	UN 1352	Flammable Solid	II	1,2	5	
	Titanium tetrachloride	8	UN 1838	Corrosive	II	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Titanium trichloride	4.2	UN 2441	Spontaneously Combustible, Corrosive	II	1,2	1,2	
	Toe puffs, *nitrocellulose base*	4.1	UN 1353	Flammable Solid	III	1	5	
	Toluene	3.2	UN 1294	Flammable Liquid	II	1,2	1	
	Toluene diisocyanate *(T.D.I.). See* Isocyanates, *with a boiling point below 300 deg C*							
	Toluidines *(o-, m-, p-)*	6.1	UN 1708	Poison	II	1,2	1,2	Stow 'away from' acids
	2,4-Toluylenediamine	6.1	UN 1709	St. Andrews Cross	III	1,2	1,2	
	Tracers for ammunition	1.4 G	UN 0306	Explosive (1.4G)	–	1,3	1,3	
	Tributylamine	8	UN 2542	Corrosive	III	1,2	1,2	
	Trichloroacetic acid, *solid*	8	UN 1839	Corrosive	II	1,2	1,2	Keep dry
	Trichloroacetic acid, *solutions*	8	UN 2564	Corrosive	II	1,2	1	Glass carboys in hampers prohibited under deck
	Trichloroacetyl chloride	8	UN 2442	Corrosive	II	1	5	Keep dry
	Trichlorobenzene, *liquid*	6.1	UN 2321	St. Andrews Cross	III	1,2	1,2	
	Trichlorobutene	6.1	UN 2322	St. Andrews Cross	III	1,3	1,3	Stow 'away from' sources of heat. Segregation same as for flammable liquids
	Trichloroethylene	6.1	UN 1710	St. Andrews Cross	III	1,2	1,2	
	Trichlorosilane	4.3	UN 1295	Dangerous When Wet, Flammable Liquid	I	1	5	
	Tricresylphosphate, *with more than 3% ortho isomer*	6.1	UN 2574	Poison	II	1,2	1,2	
	Triethylaluminium. See Aluminium triethyl							
	Triethylamine	3.2	UN 1296	Flammable Liquid	II	1,2	1	
	Triethylenetetramine	8	UN 2259	Corrosive	II	1,2	1	Stow 'separate from' nitric acid, 'away from' acids, copper and copper alloys and living quarters
	Trifluorobromomethane. See Bromotrifluoromethane							
	Trifluorochloroethane	2.2	UN 1983	Nonflammable Gas	–	1,2	1,2	
	Trifluorochloroethylene	2.1	UN 1082	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Trifluorochloromethane. See Chlorotrifluoromethane							
	Trifluoroethane	2.1	UN 2035	Flammable Gas	–	1,2	1	Stow 'away from' living quarters
	Trifluoromethane	2.2	UN 1984	Nonflammable Gas	–	1,2	1,2	
	Triisobutyl aluminium	4.2	UN 1930	Spontaneously Combustible	I	1	1	
	Trimethylaluminium. See Aluminium trimethyl							
	Trimethylamine, *anhydrous*	2.1	UN 1083	Flammable Gas, Poison Gas	–	1	5	Stow 'away from' living quarters
	Trimethylamine, *aqueous solutions containing not more than 30% of trimethylamine*	3.2	UN 1297	Flammable Liquid	II	1,2	1	Stow 'away from' mercury and its compounds
	Trimethylchlorosilane	3.2	UN 1298	Flammable Liquid, Corrosive	I	1,2	1	
	Trimethylcyclohexylamine	8	UN 2326	Corrosive	III	1,2	1,2	Glass carboys prohibited on passenger vessels
	3,3,5-Trimethylhexamethylene diamine	8	UN 2327	Corrosive	III	1,2	1,2	Glass carboys prohibited on passenger vessels
	Trimethylhexamethylene diisocyanate	6.1	UN 2328	Poison	II	1,2	1	
	Trinitrobenzene, *wetted with not less than 10% of water*	4.1	UN 1354	Flammable Solid	I	1	5	Stow 'away from' heavy metals and their compounds
	Trinitrobenzoic acid, *wetted with not less than 10% of water*	4.1	UN 1355	Flammable Solid	I	1	5	Stow 'away from' heavy metals and their compounds
	Trinitrophenol, wetted. See Picric acid, wetted							
	Trinitrotoluene, *wetted with not less than 10% of water*	4.1	UN 1356	Flammable Solid	I	1	5	Stow 'away from' heavy metals and their compounds
	Tripropylene	3.2	UN 2057	Flammable Liquid	II	1,2	1	
		3.3	UN 2057	Flammable Liquid	II	1,2	1,2	
	Tris-(1-aziridinyl)phosphine oxide, *solution*	6.1	UN 2501	Poison	II	1,2	1,2	
	Tungsten hexafluoride	2.3	UN 2196	Poison Gas	–	1	5	Stow 'away from' living quarters
	Turpentine	3.3	UN 1299	Flammable Liquid	III	1,2	1,2	
	Turpentine substitute	3.2	UN 1300	Flammable Liquid	II	1,2	1	
		3.3	UN 1300	Flammable Liquid	II	1,2	1,2	
	U D M H. See Dimethylhydrazine, *unsymmetrical*							
	Urea hydrogen peroxide	5.1	UN 1511	Oxidizer	III	1,2	1,2	Keep dry. Shade from radiant heat
	Urea nitrate, *wetted with not less than 10% of water*	4.1	UN 1357	Flammable Solid	I	1,2	1,2	
	Valeraldehyde	3.2	UN 2058	Flammable Liquid	II	1,2	1	
	Valeryl chlorides	8	UN 2502	Corrosive	II	1	1	Keep dry

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Vanadium oxitrichloride	8	UN 2443	Corrosive	II	1	1	Keep dry. Stow 'away from' organic compounds
	Vanadium pentoxide, *non-fused form*	6.1	UN 2862	Poison	II	1,2	1,2	
	Vanadium tetrachloride	8	UN 2444	Corrosive	I	1	1	Keep dry. Glass carboys prohibited on passenger vessels
	Vanadium trichloride	8	UN 2475	Corrosive	III	1,2	1,2	Keep dry
	Vanadium trioxide, *non-fused form*	6.1	UN 2860	Poison	II	1,2	1,2	
	Varnish. *See* Paints, *etc.*							
	Vinyl acetate, *inhibited*	3.2	UN 1301	Flammable Liquid	II	1,2	1	
	Vinyl bromide, *inhibited*	2.1	UN 1085	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Vinyl chloride, *inhibited*	2.1	UN 1086	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Vinyl ethyl ether, *inhibited*	3.1	UN 1302	Flammable Liquid	I	1,3	5	Keep cool
	Vinyl fluoride, *inhibited*	2.1	UN 1860	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Vinyl isobutyl ether, *inhibited*	3.2	UN 1304	Flammable Liquid	II	1,2	1	
	Vinyl methyl ether, *inhibited*	2.1	UN 1087	Flammable Gas	--	1,2	1	Stow 'away from' living quarters
	Vinyl trichlorosilane, *inhibited*	3.2	UN 1305	Flammable Liquid, Corrosive	I	1,2	1	
	Water-gas	2.1	(UN 1953)	Flammable Gas, Poison Gas	(UN 1953)	1	5	Stow 'away from' living quarters
	White asbestos. *See* Asbestos, white							
	White phosphorus, *dry*. *See* Phosphorus, *white or yellow, dry*							
	White phosphorus, *wet*. *See* Phosphorus, *white or yellow, in water*							
	Wood alcohol. *See* Methanol							
	Wool waste, *wet*	4.2	UN 1387	Spontaneously Combustible	III	1,2	1,2	
	Xenon	2.2	UN 2036	Nonflammable Gas	--	1,2	1,2	
	Xylenes	3.2 3.3	UN 1307 UN 1307	Flammable Liquid Flammable Liquid	II II	1,2 1,2	1 1,2	
	Xylenols	6.1	UN 2261	Poison	II	1,2	1,2	
	Xylidines	6.1	UN 1711	Poison	II	1,2	1,2	Stow 'away from' acids
	Xylols. *See* Xylenes							
	Xylyl bromide	6.1	UN 1701	Poison	II	1	5	
	Yellow phosphorus, *dry*. *See* Phosphorus, *white or yellow, dry*							
	Yellow phosphorus, *wet*. *See* Phosphorus, *white or yellow, in water*							
	Zinc arsenate and arsenite, *solid mixtures*	6.1	UN 1712	Poison	II	1,2	1,2	
	Zinc ashes	4.3	UN 1435	Dangerous When Wet	III	1,2	1,2	
	Zinc chlorate	5.1	UN 1513	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals, 'separate from' ammonium compounds
	Zinc chloride, *anhydrous*	8	UN 2331	Corrosive	III	1,2	1,2	Keep dry
	Zinc chloride, *solution*	8	UN 1840	Corrosive	III	1,2	1,2	
	Zinc cyanide	6.1	UN 1713	Poison	I	1,2	1,2	Stow 'away from' acids
	Zinc dithionite	9	UN 1931	None	III	1,2	1,2	Keep dry. Stow 'away from' acids
	Zinc ethyl. *See* Diethylzinc							
	Zinc nitrate	5.1	UN 1514	Oxidizer	II	1,2	1,2	
	Zinc permanganate	5.1	UN 1515	Oxidizer	II	1,2	1,2	Stow 'separate from' ammonium compounds and hydrogen peroxide
	Zinc peroxide	5.1	UN 1516	Oxidizer	II	1,2	1,2	Keep dry
	Zinc phosphide	6.1	UN 1714	Poison, Dangerous When Wet	II	1,2	1,2	Stow 'away from' acids and oxidizers
	Zinc, *powder or dust, non-pyrophoric*	4.3	UN 1436	Dangerous When Wet	II	1,2	1,2	
	Zinc, *powder or dust, pyrophoric*. *See* Pyrophoric metals							
	Zirconium hydride	4.1	UN 1437	Flammable Solid	II	1,2	5	
	Zirconium, *metal, dry, coiled wire, finished metal sheets, strip (thinner than 18 microns)*	4.2	UN 2009	Spontaneously Combustible	III	1	5	
	Zirconium, *metal, dry coiled wire or finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)*	4.1	(UN 1325)	Flammable Solid	--	1,2	1,2	
	Zirconium, *metal, dry, powder or sponge*	4.2	UN 2008	Spontaneously Combustible	II	1	5	
	Zirconium metal powder, dry	4.2	UN 2008	Spontaneously Combustible	II	1	5	
	Zirconium metal powder, wet *with not less than 25% water (a visible excess of water must be present)*	4.1	UN 1358	Flammable Solid	II	1,2	5	
	Zirconium picramate, *wetted with not less than 20% of water*	5.1	UN 1517	Oxidizer	I	1	5	Stow 'away from' heavy metals and their salts
	Zirconium, *scrap*	4.2	UN 1932	Spontaneously Combustible	III	1	5	
	Zirconium, *suspended in flammable liquid*	3.1	UN 1308	Flammable Liquid	II	1	5	Keep cool
	Zirconium tetrachloride	8	UN 2503	Corrosive	III	1,2	1,2	Keep dry

6. § 172.201 paragraph (a)(4)(i) would be revised to read as follows:

§ 172.201 General entries.

(a) * * *

(4) * * *

(i) When appropriate, the entries "IMCO" or "IMCO Class" may be entered immediately before or immediately following the class entry in the basic description.

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PART 176—CARRIAGE BY VESSEL

7. In § 176.11 paragraph (f) would be added to read as follows:

§ 176.11 Exceptions.

* * * * *

(f) The stowage requirements of § 172.101 of this subchapter notwithstanding, a hazardous material which is classed, labeled and described in accordance with § 172.102 may be stowed as provided in that section.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1, and paragraph (a)(4) of App. A, Part 106).

Note.—The Materials Transportation Bureau has determined that this proposed regulation will not have a major economic impact under the terms of Executive Order 12044 and DOT implementing procedures (43 FR 9582) nor an environmental impact which would require the preparation of an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation is available for review in the Docket.

Issued in Washington, D.C. on July 12, 1979.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

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