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Research and Special Programs Administration

49 CFR Part 171, et al.

Hazardous Materials: Transportation of Dangerous Goods in International Commerce; Proposed Rule

HM-215A

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 171, 172, 173, 175, 176, 177, and 178

[Docket No. HM-215A; Notice No. 94-6]

RIN 2137-AC42

Implementation of the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to amend the Hazardous Materials Regulations to maintain alignment with corresponding provisions of international standards. Because of recent changes to the International Maritime Dangerous Goods Code (IMDG Code), the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions), and the United Nations Recommendations on the Transport of Dangerous Goods (UN Recommendations), these proposed revisions are necessary to facilitate the transport of hazardous materials in international commerce.

DATES: Comments must be received by September 6, 1994.

ADDRESSES: Address comments to the Dockets Unit (DHM-30), Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590-0001. Comments should identify the docket and be submitted in five copies. Persons wishing to receive confirmation of receipt of their comments should include a self-addressed stamped post card. The Dockets Unit is located in Room 8421 of the Nassif Building, 400 Seventh Street, SW., Washington, DC. Public dockets may be reviewed between the hours of 8:30 a.m. and 5 p.m. Monday through Friday, except for Federal holidays.

FOR FURTHER INFORMATION CONTACT: Bob Richard, Assistant International Standards Coordinator, telephone (202) 366-0586; Beth Romo or John Gale, Office of Hazardous Materials Standards, telephone (202) 366-8553, Hazardous Materials Safety, Research and Special Programs Administration, U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590-0001.

SUPPLEMENTARY INFORMATION: On December 21, 1990, the Research and Special Programs Administration (RSPA) published a final rule [Docket HM-181; 55 FR 52402] which comprehensively revised the Hazardous Materials Regulations (HMR), 49 CFR Parts 171 to 180, with respect to hazard communication, classification, and packaging requirements, based on the UN Recommendations. One intended effect of the rule was to facilitate the international transportation of hazardous materials by ensuring a basic consistency between the HMR and international regulations.

The UN Recommendations are not regulations, but are recommendations issued by the UN Committee of Experts on the Transport of Dangerous Goods. These recommendations are amended and updated biennially by the Committee of Experts and are distributed to nations throughout the world. They serve as the basis for international modal regulations, specifically the IMDG Code, issued by the International Maritime Organization (IMO), and the ICAO Technical Instructions. In 49 CFR 171.12, the HMR authorize shipments prepared in accordance with the IMDG Code if all or part of the transportation is by vessel, subject to certain conditions and limitations. Offering, accepting and transporting hazardous materials by aircraft, in conformance with the ICAO Technical Instructions, and by motor vehicle either before or after being transported by aircraft, are authorized in § 171.11 (with certain exceptions).

On December 22, 1992, RSPA issued an interim final rule [Docket HM-215, 57 FR 60738] amending § 171.7 by incorporating the 1993-1994 edition of the ICAO Technical Instructions and Amendment 26 to the IMDG Code. This rulemaking action authorized the use of the updated international regulations, effective January 1, 1993. Amendment 26 promulgated numerous miscellaneous changes to the IMDG Code regarding classification, labeling, packaging, and documentation. The 1993-1994 edition of the ICAO Technical Instructions contained amendments relating to the seventh revised edition of the UN Recommendations, as well as changes specific to air transportation.

The HMR, as revised under Docket HM-181, are largely based on the sixth revised edition of the UN Recommendations. Selected provisions from the seventh and eighth revised editions of the UN Recommendations have been incorporated into the HMR under subsequent Docket HM-181 rulemaking actions. This NPRM seeks to more fully align the HMR with the seventh and eighth revised editions of the UN Recommendations. These proposed changes to the HMR will provide consistency with the international air and sea transport requirements which, effective January 1, 1995, will be aligned with the eighth revised edition of the UN Recommendations.

While the changes introduced in the seventh and eighth revised editions are extensive and in some cases very detailed, some of the more significant changes are highlighted below.

Major changes in the seventh revised edition include:

- Definitions and criteria for the classification for gases were revised, three subdivisions for gases were created, and the physical states of gases were defined (e.g. liquefied gas, refrigerated liquefied gas, etc). Gases listed in the UN Recommendations were reclassified according to the agreed criteria. This effort will lead to improved harmonization of U.S. and European requirements for the classification of gases. These changes have already been incorporated in the HMR in Subpart D of Part 173.
- Training requirements similar to those introduced into Part 172 Subpart H of the HMR under Docket HM-126F were added.
- Criteria for self-reactive substances assigned to Division 4.1 were developed. The applicable test methods and criteria for self-reactive substances are based on organic peroxide tests and criteria. New generic proper shipping names for self-reactive substances were introduced.
- A number of new "Not Otherwise Specified" (N.O.S.) proper shipping names for substances in Class 4 and Division 5.1 were introduced. Proposals for introducing the new names originated from efforts in Europe to adopt the classification criteria for Class 4 and Division 5.1 into European road and rail regulations.
- Provisions defining conditions under which minor variations of tested design-type packagings and requirements for "V" marked packagings were added. Proposals to include these requirements originated in the U.S. out of concern for the extent of testing that would otherwise be required to certify packagings in accordance with the UN performance standards. These provisions have already been adopted in the HMR in Subpart M of Part 178.

Major changes in the eighth revised edition include:

—Numerous additional types of packaging were added to the explosive packing instructions. This was largely a U.S. initiative arising from a concern for the number of packagings that would otherwise have to be authorized through exemptions.
—Provisions for elevated temperature materials were added These provisions are consistent with those adopted in the HMR under Docket HM–198A.
—Criteria defining substances not able to sustain combustion were included The criteria for flammable liquids were amended so that certain substances which meet the flash point criteria for flammable liquids, but which are shown to be incapable of sustaining combustion, are excepted from the Recommendations This proposal was originally proposed by the United Kingdom, which had similar provisions in its domestic regulations.
—The criteria for corrosive substances were modified to reference the Organization for Economic Cooperation and Development test protocol for skin corrosivity and to clarify the extent of skin damage needed for substances to be classified as corrosives. This was done in response to initial proposals by Germany and the European chemical industry.
—A number of new N.O.S. proper shipping names for substances in Class 3, Division 6.1 and Class 8 were introduced. Proposals for introducing the new names originated from efforts in Europe to adopt the classification criteria for these hazard classes into European road and rail regulations. Proper shipping names for petroleum products also were updated as part of this effort.
—The Recommendations were amended to require that a package bear labels representing each subsidiary risk of a material described using an N O.S. proper shipping name. This amendment was based on a proposal made by the United Kingdom.
—The current Division 6.1 Packing Group III label was deleted. For a more detailed discussion of the events leading to this decision, see RSPA's Notice 93–21 under Docket HM–217 published in the Federal Register on November 8, 1993 [58 FR 59224].
—Requirements for a freight container packing certificate were added on the basis of a United Kingdom proposal seeking to bring the UN Recommendations in line with the IMDG Code requirements.
—A number of substances meeting the criteria of Division 6.1 Packing Group I toxic by inhalation were reclassified based on U.S. proposals.
—Provisions on the marking of steel drums used to transport dangerous goods and provisions clarifying the requirements applicable to drum reconditioners and remanufacturers were included on the basis of proposals by the International Association for Drum Reconditioners (ICDR)
—Detailed test criteria for lithium batteries were added. The new provisions allow batteries with a higher lithium content to be excepted from regulation if they meet new tests and criteria. The initial proposal on this topic was introduced by Canada.
—Criteria under which air bag modules and air bag inflators could be transported as Class 9 items were introduced Proper shipping names for these articles were also added. These changes were made on the basis of U S. proposals.

With a few exceptions described in this paragraph, the following changes are proposed to ensure a basic consistency with many changes contained in the seventh and eighth revised editions of the UN Recommendations, the 1993–1994 , the 1995–1996 ICAO Technical Instructions, and Amendments 26 and 27 of the IMDG Code. However, proposed changes to the KEEP AWAY FROM FOOD label and placard provisions will be addressed in a notice of proposed rulemaking under Docket HM–217. In addition, proposed amendments to provisions for Division 6.2 materials (infectious substances) will be addressed in a separate rulemaking action under Docket HM–181G. Although the eighth revised edition of the UN Recommendations adopted a quality assurance program for the manufacture of performance packagings, RSPA is not proposing a formal quality assurance program in this document RSPA believes that periodic retest provisions in Subpart M of Part 178 offer an equivalent measure of quality assurance, but RSPA may propose adoption of a more formal quality assurance program in a future rulemaking action. Comments are solicited on this issue.

Summary of Proposed Regulatory Changes by Section

Part 171

Section 171 7. Various standards such as those issued by the International Organization for Standardization (ISO) and the American Society for Testing and Materials (ASTM) would be added or updated, and the most current versions of the ICAO Technical Instructions, the IMDG Code, and the UN Recommendations would be incorporated

Section 171 8 New definitions for "Asphyxiant gas," "Gas" and "Siftproof packaging" would be added, and definitions for "Box," "Liquid," "Overpack" and "Solid" would be revised for consistency with the seventh and eighth revised editions of the UN Recommendations. The definition for "UN standard packaging" would be revised to clarify that it applies to both U S-manufactured and foreign-manufactured packagings and to delete reference to Subparts L and M of Part 178.

Section 171.11. Paragraph (d)(5) would be revised to include the word "toxic" when referring to a poison.

Section 171 12 Paragraph (c) would be revised to clarify that this paragraph applies only to the shipment of hazardous materials through U.S port areas in the course of being transported from one foreign country to another

In addition, paragraph (b) would be revised for the following reasons. RSPA received three petitions for rulemaking requesting an amendment to the HMR to require a container packing certification attesting that the freight container has been properly packed, stowed, segregated and secured for transport Those responsible for packing the unit would be required to provide a certificate or declaration to the carrier for international transportation by vessel.

A freight container packing certification requirement was adopted several years ago under Amendment 24 to the IMDG Code and became effective worldwide on January 1, 1994, as mandated under the International Convention on Safety of Life at Sea (SOLAS Convention). When hazardous materials are packed into a freight container or transport vehicle for transportation by vessel, those responsible for packing the unit must provide a certificate or declaration to the carrier attesting that the container is suitable for transport, that it contains compatible materials in packages that have been properly inspected, packed, and secured, and the container and packages are properly marked, labeled, and placarded. This certification may appear either in a separate document or in a signed statement provided on the dangerous goods shipping document.

Because the U S. is a signatory to the SOLAS Convention, petitioners urged RSPA to adopt a similar container packing certification requirement under the HMR. RSPA is proposing to amend §§ 171.12(b) and 176.27(c) to reference

IMDG Code requirements for a container packing certification for freight containers and transport units intended for carriage by vessel. A "unit" could be a freight container, van trailer, or other transport vehicle. This requirement would apply to persons who load hazardous materials for transportation (including freight forwarders, freight consolidators and non-vessel operating common carriers) or transport hazardous materials by vessel.

Section 171.14. Paragraph (c)(3) contains provisions for intermixing old and new hazard communication requirements. Because of the October 1, 1993 mandatory compliance date for new hazard communication requirements, these provisions no longer apply. Therefore, paragraph (c)(3) would be removed and reserved.

Part 172

Sections 172.101 and 172.102. RSPA is proposing to revise the Hazardous Materials Table (HMT) and the list of special provisions in § 172.102 for basic conformance with the eighth revised edition of the UN Recommendations, the ICAO Technical Instructions (1995–1996 edition) and the 27th edition of the IMDG Code. Under Docket HM–181, the HMT was revised by consolidating the existing HMT, the Optional Table in § 172.102, the UN Recommendations' List of Dangerous Goods, the ICAO Dangerous Goods List, the IMDG Code list of dangerous goods, the list of dangerous goods found in Canada's Transport of Dangerous Goods (TDG), and the IM Tank Table. The IM Tank Table, though not codified in the HMR, authorized the transport of hazardous materials in intermodal (IM) portable tanks. The Optional Table contained in the pre-HM–181 HMR was the table used for selection of proper shipping names to be used in domestic and international transportation by vessel.

RSPA consolidated the tables under Docket HM–181 to simplify the use and reduce the volume of the HMR, as well as to align HMR hazard communication and classification requirements with the UN Recommendations. Since publication of HM–181, the UN, ICAO, and IMO have incorporated changes to their lists of dangerous goods. If RSPA does not incorporate comparable changes to the HMT, the result will be two sets of regulations (one for domestic and one for international transportation) and confusion in the regulated community—which could result in unsafe shipments and restrictions on international trade. In addition, by not adopting such changes, RSPA will expend considerable resources reviewing and issuing approvals and initiating separate rulemakings to authorize shipments prepared in accordance with the international standards.

Proposed changes to shipping descriptions are based primarily on Chapters 2 and 3 of the UN Recommendations. In turn, the changes to the IMO and ICAO lists of dangerous goods also are based on the UN Recommendations. Proposed changes include additions, deletions and revisions of shipping names, classifications, subsidiary hazards, labeling requirements, and packing group assignments—such as adding or changing a material's packing group. In addition, RSPA proposes to permit a special provision to be assigned to a shipping description to clarify the composition of a material described under a specific entry.

Except for certain materials, such as elevated temperature materials and sodium batteries, proposed changes to a material's packaging authorizations are based on a material's packing group and subsidiary hazard, and physical state (solid, liquid, or gas). Packaging authorizations would be consistent with corresponding entries already appearing in the HMT. For example, the non-bulk packaging section for a Class 3, Packing Group I material would be § 173.201. A Division 6.1, Packing Group III material would be assigned § 173.153 for a possible packaging exception, while a Division 6.1, Packing Group I or II material would receive no packaging exception section. A Class 8, Packing Group I liquid material would be assigned § 173.243 for bulk packaging requirements while a Class 8, Packing Group II liquid material would be assigned to § 173.242. It is important to note that any change to a material's classification, packing group, or subsidiary hazards could have an effect on the material's packaging authorizations.

Under HM–181, IM tank authorizations were consolidated into the HMT (through the use of special provisions prefaced by a "T") and were consistent with the sixth revision of the UN Recommendations. In this notice, RSPA is proposing to revise the IM tank authorizations for consistency with the changes in Chapter 12 of the seventh and eighth revised editions of the UN Recommendations. These proposed changes can be found in the "T-note" authorizations that are listed in Column 7 of the HMT.

The aircraft quantity limitations in Column 9 and the vessel stowage requirements in Column 10 would be revised for consistency with the ICAO Technical Instructions and IMDG Code, respectively. In § 172.101(k)(1)–(k)(5), the definitions of the vessel stowage codes, which are prescribed in the § 172.101 Table, would be revised for consistency with the IMDG Code. This proposed revision would broaden current stowage provisions for hazardous materials on cargo vessels to apply to hazardous materials (such as propane) on passenger vessels carrying a limited number of passengers.

Changes proposed to the HMT are quite extensive—approximately 33% of the entries in the HMT would be changed. Therefore, RSPA is publishing the entire proposed HMT in this notice, but does not believe it is necessary to discuss every proposed change in this section review. However, in order to facilitate the reader's understanding of the changes to the HMT, RSPA is providing a list of all entries that would be added, deleted, or made more restrictive. This list includes changes in (1) the shipping name, (2) IM tank authorization, (3) subsidiary labeling, (4) classification, and (5) packaging. In addition, a discussion of some of the more substantive changes is provided.

Many proper shipping names were added in the 1995–1996 ICAO Technical Instructions to reflect both singular and plural forms. The eighth revised edition of the UN Recommendations added a provision allowing the use of either the singular or plural form of a proper shipping name. RSPA is not proposing to add separate entries in the HMT to indicate both the singular and plural form of a proper shipping name because § 172.101(c)(1) currently permits use of either form.

Numerous editorial changes would be made to the HMT to correct misspellings and errors, and to provide more consistency. An entry having only a typographical error corrected is not shown in the list of significant changes. Therefore, it is necessary to review the entire HMT to determine every proposed change.

Currently under the HMR, compressed and liquefied gases of the same material have the same shipping description and identification number (I.D. number). RSPA is proposing to split the generic shipping descriptions for "Compressed or Liquefied gases" into separate entries and add new generic entries and I.D. numbers for liquefied gases, consistent with the UN Recommendations. In addition, new generic entries would be added for self-heating liquids and solids. Specific entries for self-reactive materials would be removed from the HMT and replaced with new generic entries

The UN Recommendations, ICAO Technical Instructions, and IMDG Code replaced the term "poisonous" with the term "toxic." RSPA is proposing to amend the proper shipping names in the HMT that contain the word "poisonous" by replacing the word "poisonous" with the word "toxic" to conform to international terminology. For example, the proper shipping name "Flammable liquid, poisonous, n.o.s." would be revised to read "Flammable liquid, toxic, n.o.s.". However, § 172.101(c)(3) would be revised to allow the use of the word "poisonous" interchangeably with the word "toxic".

The words "inorganic" and "organic" would be added to certain generic shipping descriptions. Comments are invited regarding the safety benefits of these modified descriptions, and as to whether there is a need for domestic exceptions. In addition, RSPA is proposing to add new generic entries for a corrosive material to indicate whether the material is "basic" or "acidic." RSPA also is proposing to add new entries, as adopted in the UN Recommendations, for solid materials containing flammable, corrosive, or toxic liquids.

The eighth revised edition of the UN Recommendations added entries and assigned new UN I.D. numbers for elevated temperature materials. RSPA is proposing to change the I.D. numbers for elevated temperature materials in the HMT to correspond with those in the UN Recommendations.

Currently under the HMR, air bags are assigned to the Division 4.1 hazard class and the proper shipping name is limited to "Air bag inflators" or "Air bag modules." Based on changes in the UN Recommendations, RSPA would revise the proper shipping name for air bags to include seat belt pre-tensioners and modules. The new proper shipping name would be "Air bag inflators *or* Air bag modules *or* Seat-belt modules *or* Seat-belt pre-tensioners." This entry also would reflect a change in classification from Division 4.1 to Class 9, adoption of a new UN number, and removal of the "D" in Column 1.

Two new domestic entries would be added for "Toy caps" and "Toy propellant devices". Toy propellant devices containing 30 grams or less propellant would be classed as Division 1.4S while items containing more than 30 grams but not more than 62.5 grams would be classed as Division 1.4C.

Two new entries for "Batteries, containing sodium" and "Cells, containing sodium" would be added in the HMT based on the UN Recommendations entry (UN 3292). Since these materials were previously authorized only under the terms of an exemption or competent authority approval, RSPA is proposing to add a new packaging section § 173.189 that prescribes general packaging and transport requirements for these materials consistent with the UN Recommendations.

Currently, in Column 1, a "+" is assigned to certain materials meeting the criteria of Division 6.1, Packing Group I, toxic by inhalation, but classed in another hazard class. The eighth revised edition of the UN Recommendations incorporated revisions to the hazard classification of these materials to Division 6.1, Packing Group I, toxic by inhalation. Therefore, the "+" would be removed from Column 1 for any liquid poison by inhalation (PIH) material newly classed in Division 6.1, Packing Group I.

The shipping name "acetonitrile" is proposed to replace the name "methyl cyanide." The hazard class for "Formaldehyde solutions" currently shown as Class 9 would be revised to Class 8. Numerous generic pesticide entries would be revised to remove the "n.o.s." from the shipping names.

Previously under the UN Recommendations, ICAO Technical Instructions, and the IMDG Code, a subsidiary hazard of Division 6.1, Packing Group III was not recognized. However, the international standards now take such a subsidiary hazard into account. Therefore, numerous entries would appear for the first time with a Division 6.1, Packing Group III subsidiary hazard. In addition, an exception in § 172.101(c)(12)(iii), which allows a subsidiary hazard of Division 6.1, Packing Group III to be disregarded when selecting a proper shipping name, would be removed.

Revised generic shipping descriptions for Division 4.3 materials would be prefaced by the words "water-reactive" in lieu of the words "substances which in contact with water emit". The prefix of the identification number for "Polyester resin kits" would be changed to "UN" from "NA" and a special provision "40" would be added in Column 7 that would specify contents and packaging requirements for polyester resin kits. In addition, Special Provision "117" would be removed from the entry corresponding to "UN 0150."

The entry for alcoholic beverages would be revised in Column 7 to include Special Provision "24", which would indicate that alcoholic beverages with more than 70 percent alcohol by volume would be assigned Packing Group II and alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol would be assigned Packing Group III. In addition, § 173.150 would be revised to increase (to five liters per inner packaging) the quantity of alcoholic beverage in a packaging excepted from the HMR and to provide an exception adopted in the UN Recommendations to permit Packing Group III alcoholic beverages transported in receptacles of 250 L (66 gallons) or less to be excepted from the HMR unless transported by air.

The following tables identify those entries that would be: (1) deleted; (2) significantly changed; or (3) added. An entry is considered significantly changed if there is a change in (1) the shipping name, (2) IM tank authorization, (3) subsidiary labeling, (4) classification, or (5) packaging. Each entry is identified by its identification number which, along with the cross-reference table appearing in the HMR prior to the HMT, can be used to identify the affected entries. Unless otherwise indicated, the identification numbers are "UN" numbers:

LIST OF ENTRIES THAT WOULD BE DELETED FROM THE § 172.101 TABLE

NA2255*	0416	1270	1705	2497	3030–3043
NA2810*	1118	1271	1864	2553	NA9259*
NA2811*	1255	1584	2207	2860	NA9276*
0273	1256	1592	2229	2951–2955	
0274	1257	1703	2449	2970–2973	

*See new entry added by the UN recommendations

List of Entries That Would Be Significantly Changed

NA1760
NA1986
NA2922
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List of Additions to the § 172.101 Table

UN #	SHIPPING NAME
0491 ..	CHARGES, PROPELLING.
0492 ..	SIGNALS, RAILWAY TRACK, EXPLOSIVE.
0493 ..	SIGNALS, RAILWAY TRACK, EXPLOSIVE.
0494 ..	JET PERFORATING GUNS, CHARGED, oil well, without detonator.
0495 ..	PROPELLANT, LIQUID.
0496 ..	OCTONAL.
0497 ..	PROPELLANT, LIQUID.
0498 ..	PROPELLANT, SOLID.
0499 ..	PROPELLANT, SOLID.
1851 ..	MEDICINE, LIQUID, TOXIC, N.O.S.
1990 ..	BENZALDEHYDE.
3155 ..	PENTACHLOROPHENOL.
3156 ..	COMPRESSED GAS, OXIDIZING, N.O.S.
3157 ..	LIQUEFIED GAS, OXIDIZING, N.O.S.
3158 ..	GAS, REFRIGERATED LIQUID, N.O.S.
3159 ..	1,1,1,2-TETRAFLUOROETHANE.
3160 ..	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.
3161 ..	LIQUEFIED GAS, FLAMMABLE, N.O.S.
3162 ..	LIQUEFIED GAS, TOXIC, N.O.S.
3163 .	LIQUEFIED GAS, N.O.S.
3164 ..	ARTICLES, PRESSURIZED PNEUMATIC or HYDRAULIC (containing non-flammable gas).

List of Additions to the § 172.101 Table—Continued

UN #	SHIPPING NAME
3166 .	ENGINES, INTERNAL COMBUSTION, including when fitted in machinery or vehicles.
3167 ..	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid.
3168 ..	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid.
3169 ..	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid.
3170 ..	ALUMINIUM PROCESSING BY-PRODUCTS.
3171 ..	BATTERY-POWERED VEHICLE or BATTERY-POWERED EQUIPMENT (wet battery)
3174 ..	TITANIUM DISULPHIDE.
3175 ..	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.
3176 .	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.
3178 ..	FLAMMABLE SOLID, INORGANIC, N.O.S.
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.
3180 ..	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.
3181 ..	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.
3182 ..	METAL HYDRIDES, FLAMMABLE, N.O.S.
3183 .	SELF-HEATING LIQUID, ORGANIC, N.O.S.

List of Additions to the § 172.101 Table—Continued

UN #	SHIPPING NAME
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.
3185 .	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.
3186 .	SELF-HEATING LIQUID, INORGANIC, N.O.S.
3187 .	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.
3188 .	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.
3189 ..	METAL POWDER, SELF-HEATING, N.O.S.
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.
3191 ..	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.
3192 .	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.
3194 ..	PYROPHORIC LIQUID, INORGANIC, N.O.S.
3200 ..	PYROPHORIC SOLID, INORGANIC, N.O.S.
3203 .	PYROPHORIC ORGANOMETALLIC COMPOUND, N.O.S.
3205 ..	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
3206 ..	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.
3207 .	ORGANOMETALLIC COMPOUND or COMPOUND SOLUTION or COMPOUND DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.

LIST OF ADDITIONS TO THE § 172.101 TABLE—Continued

UN #	SHIPPING NAME
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N O S
3209 .	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O S
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N O S
3211 ..	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N O S.
3212	HYPOCHLORITES, INORGANIC, N.O.S
3213 .	BROMATES, INORGANIC, AQUEOUS SOLUTION, N O S
3214 ..	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N O S
3215	PERSULPHATES, INORGANIC, N.O S
3216 .	PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N O S
3217 .	PERCARBONATES, INORGANIC, N O S
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N O S
3219 ..	NITRITES, INORGANIC, AQUEOUS SOLUTION, N O S
3220 .	PENTAFLUOROETHANE
3221 .	SELF-REACTIVE LIQUID TYPE B.
3222	SELF-REACTIVE SOLID TYPE B
3223 ..	SELF-REACTIVE LIQUID TYPE C
3224 ..	SELF-REACTIVE SOLID TYPE C
3225	SELF-REACTIVE LIQUID TYPE D
3226 .	SELF-REACTIVE SOLID TYPE D.
3227 .	SELF-REACTIVE LIQUID TYPE E
3228 ..	SELF-REACTIVE SOLID TYPE E.
3229 ..	SELF-REACTIVE LIQUID TYPE F
3230 ..	SELF-REACTIVE SOLID TYPE F
3231 ..	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED
3232 .	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED.
3233 ..	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED
3234 ..	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED.
3235 ..	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED
3236 ..	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED.
3237 ..	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED
3238 ..	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED.
3239 ..	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED.
3240 ..	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED
3241 ..	2-BROMO-2-NITROPROPANE-1,3-DIOL.
3242 ..	AZODICARBONAMIDE
3243 ..	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.
3244 ..	SOLIDS CONTAINING CORROSIVE LIQUID, N O S
3246 ..	METHANESULPHONYL CHLORIDE
3247 ..	SODIUM PEROXOBORATE, ANHYDROUS.
3248 ..	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N O S
3249 ..	MEDICINE, SOLID, TOXIC, N O S
3250 ..	CHLOROACETIC ACID, MOLTEN
3251 ..	ISOSORBIDE-5-MONONITRATE

LIST OF ADDITIONS TO THE § 172 101 TABLE—Continued

UN #	SHIPPING NAME
3252	DIFLUOROMETHANE
3253 .	DISODIUM TRIOXOSILICATE, PENTAHYDRATE.
3254	TRIBUTYLPHOSPHANE.
3255 ..	tert-BUTYL HYPOCHLORITE
3256	ELEVATED TEMPERATURE LIQUID, N O S with flash point above 37.8 °C, at or above its flash point
3257	ELEVATED TEMPERATURE LIQUID, N O S , at or above 100 °C and below its flash point
3258	ELEVATED TEMPERATURE SOLID, N O S., at or above 240 °C
3259	AMINES, SOLID, CORROSIVE, N.O S or POLYAMINES, SOLID, CORROSIVE, N O S
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N O S
3261	CORROSIVE, SOLID, ACIDIC, ORGANIC, N O S
3262	CORROSIVE, SOLID, BASIC, INORGANIC, N O S
3263	CORROSIVE, SOLID, BASIC, ORGANIC, N O S
3264	CORROSIVE, LIQUID, ACIDIC, INORGANIC, N.O S
3265	CORROSIVE, LIQUID, ACIDIC, ORGANIC, N.O S
3266	CORROSIVE, LIQUID, BASIC, INORGANIC, N O S
3267	CORROSIVE, LIQUID, BASIC, ORGANIC, N O S
3268	AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS or SEAT-BELT MODULES
3269 ..	POLYESTER RESIN KIT
3270	NITROCELLULOSE MEBRANE FILTERS
3271 .	ETHERS, N O S
3272 ..	ESTERS, N O S
3273	NITRILES, FLAMMABLE, TOXIC, N O S.
3274 ..	ALCOHOLATES SOLUTION, N O S , in alcohol
3275 .	NITRILES, TOXIC, FLAMMABLE, N O S.
3276 ..	NITRILES, TOXIC, N O S
3277 ..	CHLOROFORMATES, TOXIC, CORROSIVE, N.O S.
3278 .	ORGANOPHOSPHORUS COMPOUND, TOXIC N O S
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S
3280 .	ORGANOARSENIC COMPOUND, N O S
3281 ..	METAL CARBONYLS, N O.S
3282 .	ORGANOMETALLIC COMPOUND, TOXIC N O.S.
3283 ..	SELENIUM COMPOUND, N O.S
3284	TELLURIUM COMPOUND, N O.S
3285 .	VANADIUM COMPOUND, N.O.S.
3286 ..	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N O.S
3287 .	TOXIC LIQUID, INORGANIC, N.O.S.
3288 ..	TOXIC SOLID, INORGANIC, N O.S
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
3290 ..	TOXIC SOLID, CORROSIVE, INORGANIC, N.O S.

LIST OF ADDITIONS TO THE § 172.101 TABLE—Continued

UN #	SHIPPING NAME
3292 .	BATTERIES, CONTAINING SODIUM, or CELLS, CONTAINING SODIUM
3293	HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass
3294 .	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide
3295	HYDROCARBONS, LIQUID, N O S
3296 .	HEPTAFLUOROPROPANE.
3297	ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8 8% ethylene oxide
3298 ..	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7 9% ethylene oxide.
3299	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5 6% ethylene oxide.
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide
3301	CORROSIVE LIQUID, SELF-HEATING, N O S

Appendix B to § 172 101. In a November 5, 1992 final rule entitled "Marine Pollutants" [57 FR 52934], RSPA stated that it would consider, in a future rulemaking action, a criteria-based system to identify marine pollutants Adoption of a criteria-based system would provide continuity and harmony, as well as permit identification of potential pollutants previously not identified. Therefore, RSPA is proposing to add two notes which are consistent with recent IMO decisions The first, Note 4, would allow a material meeting criteria for a marine pollutant in the IMDG Code but not listed in Appendix B of § 172.101, to be transported as a marine pollutant. Note 5 would allow the Associate Administrator for Hazardous Materials Safety to except from HMR requirements a material listed in Appendix B of the HMR that does not meet the IMDG Code criteria for a marine pollutant. In addition, a number of materials would be added to, or removed from, the HMR's List of Marine Pollutants.

Section 172 102. Special Provisions 23, 24, 26, 32, 34–40, and 43–51 would be added to § 172 102. These special provisions relate to certain materials' classifications and any special packaging requirements that are necessary to safely transport these materials. Due to an oversight, Special Provision 23 was already added in a

final rule published June 2, 1994 [Docket HM–166Z; 59 FR 28493]. This special provision concerned classification of ammonium nitrate fertilizer. Special Provision 23 in this notice does not apply to ammonium nitrate fertilizer and is not intended to revise the recently adopted Special Provision 23. However, because of a time constraint and the difficulty in amending Column 7 of the HMT, the new provision will be proposed in this notice under Special Provision 23, but will be renumbered to Special Provision 38 in the final rule under Docket HM–215A.

Section 172.203. A new paragraph (o) would be added to require additional information to be included in the shipping paper description for organic peroxides and self-reactive materials. In addition, paragraphs (k) and (m) would be revised based on changes to the HMT. In paragraph (k), the list of shipping names requiring technical names would be revised based on changes to the HMT. In paragraph (m), the reference to "Poison" would be modified to include an alternative reference to "Toxic."

Section 172.204. The certification statement in paragraph (a)(2) would be revised to add "placarded" as a condition for declaring a shipment to be properly prepared for transportation. This wording is consistent with international declarations and would enable one shipper certification statement to be used for both domestic and export shipments so that different preprinted forms are not needed.

Section 172.320. Section 172.320 would be revised to permit all product codes that are traceable to an "EX-number" to be marked on boxes of explosives in lieu of the EX number.

Section 172.400a. A new paragraph (c) would be added to state that a subsidiary POISON label is not required on a package bearing a primary CORROSIVE label if the poison hazard of the material inside is based solely on corrosive destruction of tissue and is not due to systemic poisoning. This provision was omitted inadvertently in the Docket HM–181 final rule, and reinstating it would be consistent with international requirements.

Section 172.402. For consistency with revisions to the UN Recommendations, ICAO Technical Instructions, and the IMDG Code, labeling for certain subsidiary hazards would be required. The subsidiary labeling table in paragraph (a)(2) would be revised to exclude Class 3 Packing Group III subsidiary risk materials having a flash point at or above 38 °C (100 °F) from the requirement to label, except when transporting the materials by air or vessel. This proposed revision would require that a material having a subsidiary risk of Class 3 Packing Group III and a flash point below 38 °C (100 °F) be labeled for the Class 3 subsidiary hazard in accordance with this section. In addition, the exception from subsidiary hazard labeling for Class 8 Packing Group III and Division 6.1 Packing Group III materials transported by highway or rail would be removed. Previously, a Division 6.1 Packing Group III subsidiary hazard was not required internationally or domestically. Based on a change adopted in the eighth revised edition of the UN Recommendations, which removed the STOW AWAY FROM FOODSTUFFS label and placard, packages containing materials having either a primary or subsidiary hazard in Division 6.1 Packing Group III are required to bear a POISON label. As noted previously in this document, RSPA is addressing this issue in a rulemaking action under Docket HM–217. However, RSPA believes that a package containing a material meeting Division 6.1 Packing Group III criteria as either a primary or subsidiary hazard should bear a label which communicates a warning that the material must be kept separate from foodstuffs. Therefore, RSPA is proposing that any material having a subsidiary hazard of Division 6.1 Packing Group III must bear a KEEP AWAY FROM FOOD subsidiary label when transported domestically by any mode. Also, new subsidiary labeling requirements for Class 2 materials would, under this proposal, be added as paragraphs (f) and (g).

Section 172.411. A requirement specifying a minimum height for the compatibility group letter on certain EXPLOSIVE labels would be removed.

Section 172.416. Section 172.416 would be revised to allow the use of the words "TOXIC GAS" on the POISON GAS label.

Section 172.430. Section 172.430 would be revised to allow the use of the word "TOXIC" on the POISON label.

Section 172.540. Section 172.540 would be revised to allow the use of the words "TOXIC GAS" on the POISON GAS placard.

Section 172.547. Section 172.547 would be revised to reduce the size requirement for the word "spontaneously" in the "SPONTANEOUSLY COMBUSTIBLE" placard from 25 mm to 12 mm.

Section 172.554. Section 172.554 would be revised to allow the use of the word "TOXIC" on the POISON placard.

Part 173

Section 173.2a. Consistent with the UN Recommendations, the Precedence of Hazards Table would be amended to account for combinations of Division 4.2 and Class 8 materials which currently are denoted as impossible combinations. In addition, a new footnote 5 would be added to the paragraph (b) table to specify that, for materials having multiple risks which are not listed by technical name in the § 172.101 Table, the most stringent packaging group must be used. Also, a note would be added to the paragraph (b) table to specify the class assignment for a material which meets the definition of Class 8, has an inhalation toxicity by dusts and mists at the Packing Group I level and meets criteria for oral or dermal toxicity.

Section 173.21. A reference to the § 173.224 self-reactive materials table would be revised to reflect proposed changes to the table.

Section 173.22. Paragraph (a)(3)(i) would be revised to indicate that the marking appearing on the bottom of a metal or plastic drum in accordance with § 178.503 would not be an acceptable means of determining if the drum is an authorized packaging.

Section 173.24. Paragraph (d) would be revised to specify the conditions under which foreign-manufactured packagings may be used. The proposed revision would stipulate the conditions under which foreign-manufactured UN packagings may be filled and used in the U.S. Under this proposal, only packagings from countries affording the same degree of acceptance to U.S.-manufactured packagings may be used. Current provisions of the regulations authorize their use only for import/export shipments under §§ 171.11 and 171.12. In addition, paragraph (e)(4)(ii) would be revised to prohibit hazardous materials from being packed or mixed with other hazardous or nonhazardous materials in the same outer packaging if such materials are capable of reacting with each other and causing the evolution of "asphyxiant gases."

Section 173.25. Paragraph (a) would be amended to refer to the definition of "Overpack" in § 171.8, which also would be amended to provide examples of suitable overpacks. Paragraph (b) would be added to authorize shrink-wrapped or stretch-wrapped trays as outer packagings for inner packagings prepared under limited quantity or consumer commodity provisions if the completed package is capable of meeting the Packing Group III performance level and the gross weight of the package does not exceed 20 kg.

Section 173 28 Paragraph (b)(4), as revised under the Docket HM–181 final rule, currently requires that metal and plastic single packagings meet certain minimum thicknesses and that the "minimum" thickness be marked on the package. Since issuance of the Docket HM–181 final rule, the eighth revised edition of the UN Recommendations and the international regulations have adopted a provision that metal drums with a capacity greater than 100 liters must be marked in accordance with tolerances allowed under ISO standard 3574 for each nominal thickness of steel

Unless the below-described proposed changes to § 173 28 are adopted, thicknesses and thickness marking requirements that differ between the HMR and international regulations could result in confusion, with drum users and reconditioners unsure whether drums are suitable for reuse or remanufacture Drum manufacturers in the U.S might find it necessary to mark both minimum and nominal thicknesses on each drum in order to satisfy DOT and international requirements. Consistent with changes proposed in § 178.503(a), RSPA is proposing that metal drums and jerricans which are to be reused be marked with the nominal thickness, in millimeters. The minimum thickness table in paragraph (b)(4) would be revised for metal drums and jerricans to reflect a minimum thickness corresponding to the minimum allowed under ISO standard 3574 for various nominal thicknesses In developing the minimum thickness proposed for each listed capacity of packaging, the thickness chosen is that most closely corresponding numerically (i.e., without regard to whether it is thicker or thinner) to the minimum thickness previously required That is, based on the tolerances allowed under ISO 3574 for each nominal thickness of steel, the minimum thickness corresponding to that nominal thickness was determined and compared to the minimum thickness required under the current provisions for the given capacity of packaging. Each proposed minimum thickness would result in a minimum sheet thickness closely corresponding to that required under the current regulations However, for packagings with a capacity up to and including 120 liters, the proposed minimum thicknesses would result in slight increases in the required thickness

Drums would continue to be suitable for reuse only if they meet the minimum thickness criteria of the table in paragraph (b)(4). A person reusing a metal drum or jerrican could not rely on the thickness marking appearing on the packaging to satisfy the minimum thickness requirements, since that marking would represent the nominal, rather than the minimum, thickness in accordance with proposed § 178.503(a)(9). Because the eighth revised edition of the UN Recommendations did not address thickness requirements for plastic packagings, RSPA is not proposing any changes to the thickness requirements for plastic packagings.

Based on the merits of a petition for rulemaking (P–1133), a new paragraph (b)(7) would be added to waive retesting requirements for certain packagings used in limited operations prior to each reuse. The petitioner states that this proposed change would provide consistency with corresponding provisions in international requirements According to both the HMR and the UN Recommendations, a packaging must be design-qualification tested before use. However, unlike the HMR, the UN Recommendations do not require a packaging to be leakproof tested before it is reused for transport, but only after it is reconditioned. Packagings that are reused without reconditioning include metal drums that are refilled with the same or similar compatible contents and transported within distribution chains controlled by the consignor of the product. RSPA is proposing similar provisions in new paragraph (b)(7) for certain packagings to be reused without leakproof testing. Packagings would be limited to stainless steel, monel, or nickel drums (or other packagings approved by the Associate Administrator for Hazardous Materials Safety) refilled with the same or similar compatible contents and transported by a private carrier, contract carrier, or common carrier in a transport vehicle or freight container used exclusively for such service, within a distribution chain controlled by the offeror. In order to ensure an appropriate level of safety, when stainless steel, monel, or nickel drums are reused without undergoing leakproof testing, they would be required to meet more stringent thickness standards than prescribed in paragraph (b)(4). Other packagings could qualify only if approved by the Associate Administrator for Hazardous Materials Safety. Packagings also would require an inspection prior to each reuse, and any packaging showing evidence of a reduction in integrity would not be authorized for reuse without reconditioning.

Section 173 33 Paragraph (c)(5) would be revised to limit the provisions of the paragraph to materials in Packing Groups I and II of Division 6.1

Section 173 52. In § 173 52, the description of Compatibility Group B would be revised to clarify that detonators and similar articles are included within this description even if they do not contain primary explosives. In addition, in the descriptions for Compatibility Groups E and F, the word "gel" would be added to clarify that articles with a propelling charge containing gel may not be classified in Compatibility Group E or F

Section 173 59. In § 173 59, the definitions "powder, smokeless," "propellants," and "charges, propelling" would be revised and definitions for "charges, propelling for cannon," "propellent, liquid," and "propellant, solid" would be added

Section 173.60 In § 173 60, paragraph (b)(15) would be added to require all plastic packagings to be static-resistant

Section 173 62 In § 173.62, the Explosives Table would be revised to add new descriptions for Class 1 materials In addition, the packing method for UN0075 and UN0143 would be revised to E–159. The Table of Packing Methods would be editorially revised to change the reference to steel and aluminum boxes from 4A1 or 4A2 and 4B1 or 4B2 to 4A and 4B, respectively. Several packing methods would be revised by authorizing aluminum boxes (4B) as an alternate packaging. For clarity, the entire proposed Explosive Packing Methods Table has been reprinted with the Table of Particular Packaging Requirements and Exceptions following. Paragraph (e) would be revised to update the military packaging exception to allow explosives packaged prior to January 1, 1990, to be transported in accordance with the packaging provisions in effect on that date.

Section 173 115. The definition of a Division 2.2 gas would be expanded to include asphyxiant and oxidizing gases.

Section 173.120. Definitions for Class 3 liquids would be revised to include provisions for evaluating a material's ability to sustain combustion and to measure flame point. A new method of testing for combustibility would be referenced and added as Appendix H to Part 173. Specific exceptions consistent with the UN Recommendations would be added as paragraphs (a)(3), (a)(4), and (a)(5) In addition, references to ASTM standards would be revised to reflect updated versions. Paragraph (b)(2) would be revised to clarify that an elevated temperature material in Class 3 may not be reclassed as a combustible liquid. As explained more fully in a notice of proposed rulemaking and in a final rule issued under Docket HM–198A [54 FR 38931; September 21, 1989

and 56 FR 49981; October 2, 1991), when a liquid is intentionally heated to a temperature that is equal to or greater than its flash point, flammable vapors are produced above the liquid. If these flammable vapors are exposed to an ignition source, an explosion or fire could result.

Section 173.121. Criteria for including viscous Class 3 materials in Packing Group III would be revised. ISO method ISO 1523–1983 would be referenced for determination of flash point. Several modifications to the method would be provided when the temperature of the flash point is too low for the standard procedures. Reference to ISO method 2431–1989 would reflect the latest revision. The table in § 173.121(b)(1)(iv) would be amended for consistency with the eighth revision of the UN Recommendations.

Section 173.124. The definition of self-reactive materials would be revised to conform to the changes in the UN Recommendations, which now contains "generic" shipping descriptions. When a new self-reactive material is introduced into commerce, its transportation hazards currently are determined based on standard tests. The competent authority then assigns the new self-reactive material to a generic type based on the test results.

In the proposed revision to § 173.124, seven types of self-reactive material (Types A–G) are defined in paragraph (a)(2). The procedure for assigning a specific self-reactive material to a generic type is set forth in paragraph (a)(2)(vi). If a self-reactive material is identified by technical name in the Self-Reactive Materials Table in § 173.224, the generic type is assigned in that Table. The lengthy process by which importing and exporting countries agree on the packaging requirements or assignment of a shipping description for a new self-reactive material would be avoided by using this procedure.

Section 173.128. Editorial changes would be made in paragraphs (a), (c)(2) and (c)(3), and procedures for obtaining approvals would be clarified in revised paragraph (d).

Sections 173.136 and 173.137. The definition and packing group assignment for Class 8 materials would be clarified. Specific test protocols developed by the Organization for Economic Cooperation and Development (OECD) and published in the 1992 OECD Guideline for Testing of Chemicals, No. 404, "Acute Dermal Irritation/Corrosion" would be incorporated. A copy of this guideline may be obtained from the OECD Publications and Information Center, 2001 L Street, Suite 700, Washington, DC 20036 or by contacting the RSPA Dockets Unit.

Section 173.150. Paragraph (a) would be revised to allow Class 3 materials that meet the definition of Class 8 Packing Group III or Division 6.1 Packing Group III, to utilize limited quantity exceptions provided in this section. Paragraph (b) would be expanded to include limited quantity exceptions for combustible liquids to provide relief from specification packaging and placarding requirements for combustible liquids which are also hazardous substances or hazardous wastes. The paragraph (d) provisions for alcoholic beverages would be revised to clarify that an alcoholic beverage containing 24 percent or less alcohol by volume is not subject to the HMR. The maximum quantity per package of alcoholic beverage excepted from the HMR would be raised from four liters to five liters, and a Packing Group III alcoholic beverage in a packaging of 250 L or less would not be subject to the HMR unless transported by air.

Section 173.152. The limited quantity provisions for organic peroxides would be amended by increasing the authorized net capacity per inner packaging for Type D, E, or F liquid and solid organic peroxides and Type B or C solid organic peroxides. However, the authorized net capacity for liquid Type B or C organic peroxides would decrease from 30 ml to 25 ml per inner packaging.

Section 173.164. Certain exceptions for mercury (metallic and articles containing mercury), would be clarified and a 4H2 solid plastic box would be authorized as an outer packaging, consistent with the ICAO Technical Instructions.

Section 173.166. This section would be amended to limit its applicability to air bag inflators and modules showing certain specified results when subjected to a bonfire test. Under this proposed revision, airbag modules and inflators not meeting the test criteria must be transported as explosives.

Section 173.168. This section would be added to define a "nonspillable battery", establish separate requirements for nonspillable batteries (as opposed to the requirements for wet batteries contained in § 173.159), and provide vibration and pressure differential testing criteria. Except when transporting a wheelchair or other battery-powered mobility aid equipped with a non-spillable battery by air as checked baggage, a nonspillable battery which is protected against short circuits, securely packaged and durably marked would not be subject to any other HMR requirements.

Section 173.171. Paragraph (a) would be revised to clarify that smokeless powder must be examined and approved as both Division 1.3 and Division 4.1.

Section 173.185. RSPA is proposing to amend the requirements for lithium batteries consistent with changes in the UN Recommendations. While the new requirements apply more severe test requirements to lithium batteries, they also will allow batteries with higher quantities of lithium to be transported without being subject to the regulations, provided specified criteria are met. Existing batteries previously allowed to be transported as Class 9 batteries may continue to be transported under the present requirements indefinitely if the present requirements are met.

Section 173.189. This new section would be added to establish the packaging and general transport requirements for batteries and cells containing sodium. The packagings and transport conditions proposed reflect those prescribed for these articles in the UN Recommendations, the ICAO Technical Instructions and the IMDG Code. Specific conditions under which batteries containing liquid sodium may be transported are proposed based on the conditions prescribed for the transport of batteries containing liquid sodium under DOT–E 10917.

Section 173.196. The seventh edition of the UN Recommendations revised a provision for infectious substances packagings to require that either the primary receptacle or the secondary packaging be capable of withstanding the prescribed pressure differential. RSPA is proposing a similar revision to paragraph (f) to clarify that both the inner and the outer packagings are not required to have this capability.

Sections 173.211–213. These sections would be revised to change packaging identification codes (for steel boxes from 4A1 and 4A2 to 4A and for aluminum boxes from 4B1 and 4B2 to 4B) for consistency with international requirements.

Section 173.224. This section would be revised based on the UN Recommendations. Paragraph (b) sets forth the Self-Reactive Materials Table which identifies the technical name for specific self-reactive materials, the identification number which is used to select the appropriate generic shipping description, specifications for concentrations of the self-reactive material, packing methods that may be used, temperature control requirements, and additional special provisions. The existing packing methods for self-reactive materials would be replaced with the packing methods for organic

peroxides which are prescribed in § 173.225.

Paragraph (c) sets forth procedures for new self-reactive materials, formulations and samples. New self-reactive materials and formulations of currently identified self-reactive materials would have to be approved in accordance with the provisions in § 173.124(a)(2)(vi). Paragraph (c)(4) contains provisions for the shipping of samples of new formulations. Paragraph (d) would specify that self-reactive materials of Type F may be transported in bulk only under the approval of the Associate Administrator for Hazardous Materials Safety.

Section 173 225. In § 173.225, paragraph (a) would be revised to prohibit the use of metallic non-bulk packagings meeting a Packing Group I packaging standard. Paragraph (c)(5) would be added to authorize the transportation of mixtures of organic peroxides that are specifically identified in the Organic Peroxides Table without approval by the Associate Administrator for Hazardous Materials Safety In addition, the Organic Peroxide Table would be revised to add new organic peroxides adopted in the UN Recommendations.

Section 173.304. In the paragraph (a)(2) table, for the entry "carbon dioxide," an erroneous reference to a DOT–3T1800 cylinder would be corrected to authorize a DOT–3T1800 cylinder for carbon dioxide.

Section 173.306. In paragraph (a)(3)(v), the hot water immersion test for aerosols and small gas receptacles would include a reference temperature of 50 °C (122 °F) in addition to the reference temperature of 55 °C (131 °F) A reference temperature of 50 °C would be permitted if the liquid phase of the materials contained in the receptacle does not exceed 95 percent of the capacity of the receptacle at 50 °C In addition, provisions would be added for plastic receptacles or contents which are sensitive to heat.

Appendix A to Part 173. Appendix A, which provides a method of testing corrosion to skin, would be removed and reserved for consistency with proposed changes to the definition and packing group assignment for Class 8 materials.

Appendix E to Part 173. New criteria would be added for self-reactive materials possessing explosive properties, and an editorial change would be made to clarify that powders of metals or metal alloys that can be ignited are classified in Division 4 1

Appendix F to Part 173. In paragraph 1 , an editorial revision would be made to correctly reference Division 5.1

Appendix H to Part 173. A new Appendix H would be added to Part 173 to provide a method of testing for combustibility This method outlines a procedure for determining if a material can sustain combustion if heated under test conditions and exposed to an external source of flame.

Part 175

Section 175.10. The phrase "environmental restoration or protection" would be added as an exception in paragraph (a)(12) to clarify that certain aircraft operations pertaining to environmental restoration may be conducted under the provisions of this paragraph. Exceptions currently contained in paragraphs (a)(13) and (a)(17) for carbon dioxide (dry ice) would be consolidated into paragraph (a)(13) to except this material from regulation from Part 175 when it is used as a refrigerant for a package, intended for use in food or beverage service aboard an aircraft, or when used to pack perishables in carry-on baggage. Paragraph (a)(4) would be revised for consistency with the ICAO Technical Instructions which prohibit the carriage of undeclared flammable aerosols in checked or carry-on luggage. The carriage of such aerosols may create an unnecessary risk to ground handlers, passengers, and air crew members In addition, a new paragraph (a)(26) would be added to except from regulation small medical or clinical mercury thermometers carried by passengers or crew members for personal use.

Section 175.33. Paragraph (a)(1) would be revised and a new paragraph (a)(9) would be added to require an aircraft operator, in the written notification to the pilot-in-command, to include a compatibility group letter for a Class 1 material and an air waybill number where one has been issued

Part 176

Section 176.27. A new paragraph (c) would be added to reference a container packing certificate required under the provisions of the SOLAS Convention. (See discussion under § 171.12 of this section review for additional information.)

Section 176.76. A new paragraph (i) is being proposed for inclusion in § 176.76 to address the transport of fumigated transport units on vessels. These proposed fumigation requirements would be in addition to the fumigation requirements contained in § 173.9. The new vessel requirements are generally consistent with the IMDG Code requirements for transporting fumigated transport units and are consistent with Special Permits currently being issued by the Coast Guard for U.S. maritime transport of fumigated transport units Contrary to the IMDG Code but consistent with the UN Recommendations, RSPA is not proposing that fumigated units be treated as items of Class 9. If the proposed requirements for fumigated transport units on vessels are adopted in the final rule, a Special Permit issued by the Coast Guard would no longer be necessary.

Part 177

Section 177.841. Paragraph (e)(3) would be revised to specify requirements for separating Division 6 1 Packing Group III materials from foodstuffs, consistent with provisions in § 177.848.

Part 178

Section 178 2. Paragraph (a) would be revised to clarify that Part 178 requirements for UN standard packagings apply only to packagings manufactured in the U S. See § 173.24(d)(2) for foreign-manufactured packagings. A new paragraph (e) would be added to include definitions for "manufacturer" and "specification markings." These new definitions would specify who is to be identified through a specification marking as the "manufacturer" and would clarify the manufacturer's responsibility under Part 178.

Section 178 3. The introductory text in paragraph (a) and the text in subparagraph (a)(2) would be revised editorially for clarity. A new marking provision would be added to paragraph (a)(4) to permit markings of an appropriate, rather than specific, size for packagings of 5 L (1 gallon) or 5 kg (11 pounds) or less capacity. Paragraph (b) would be revised to clarify the requirements for UN standard packagings marked in accordance with HMR requirements and UN standard packagings marked in accordance with the ICAO Technical Instructions or the IMDG Code.

Section 178 502. In paragraph (a) introductory text and paragraph (a)(1), the terms "type" or "types" of packagings would be amended for consistency with international regulations to read "kind" or "kinds" of packagings

Section 178 503. Consistent with the UN Recommendations, RSPA is proposing revisions to certification marking requirements in this section. Each packaging certified to a UN standard is required to have a series of markings which describe the packaging and its characteristics. Paragraph (a) would be revised to require, for

packagings having a gross mass greater than 30 kg (66 pounds), that these markings appear on the top or side of the packaging. Currently, § 178 503 requires that metal or plastic drums or jerricans intended for reuse be marked with the minimum thickness of the packaging material. Consistent with the UN Recommendations, RSPA is proposing that metal drums and jerricans intended for reuse be marked with the nominal thickness. The nominal thickness marked would be in accordance with ISO 3574; that is, the nominal thickness marked could only exceed the actual minimum thickness of the packaging material by the tolerance specified in ISO 3574. Packagings to be reused would still be subject to the minimum thickness requirements of § 173.28. Because the eighth revised edition of the UN Recommendations did not address thickness requirements for plastic packagings, RSPA is proposing that plastic drums and jerricans intended for reuse continue to be marked with the minimum thickness of the packaging material.

In addition to the full marking on the top or side of a metal or plastic drum having a capacity greater than 100 liters and intended for reuse or reconditioning as a single packaging or the outer packaging of a composite packaging, RSPA is proposing to require a permanent marking of the drum characteristics on the bottom of the drum. The country authorizing the mark, the name and address of the manufacturer, and the packaging thickness would not be required as part of this permanent mark. This marking would identify the packaging as it was originally manufactured, and could not necessarily be used to determine compliance with packaging requirements. For example, if a non-removable head drum had been converted to a removable head drum, this conversion would not be reflected in the marking on the bottom of the drum, but would be evident in the top or side marking. For drums marked permanently on the bottom, the top or side mark would not be required to be permanent (i.e., able to withstand the reconditioning process).

RSPA is proposing a new paragraph (d), which would specify additional requirements for markings on reconditioned metal drums. The paragraph would require that reconditioners reapply markings which no longer appear on drums after the reconditioning process. A reconditioner could duplicate the original markings or apply markings which reflect a lower performance level, but could not apply markings which identify a performance level greater than that for which the original design type had been tested and marked.

Section 178 512 Standards for steel boxes and aluminum boxes would be consolidated by removing the distinction between unlined/uncoated steel or aluminum boxes and steel or aluminum boxes having an inner liner or coating. Therefore, both unlined and lined steel boxes would be identified as 4A and unlined and lined aluminum boxes would be identified as 4B. Corresponding revisions would be reflected in the packaging authorizations of Part 173.

Section 178.513. A new paragraph would be added to the standards for natural wood boxes to specify fastening requirements.

Section 178.516. In paragraph (b)(1), the reference to ISO Standard 535–1976(E) would be updated. Paragraph (b)(2) would be revised to authorize the ends of fiberboard boxes to be constructed of suitable materials other than wood, which is already authorized.

Section 178 521. In paragraph (b)(2), the term "water-resistant" would be revised to "waterproof" and examples of a waterproof ply or barrier would be provided.

Section 178.522. A composite packaging consisting of a plastic receptacle in a protective plastic drum is designated as 6HH in the current HMR standards. The UN Recommendations recently adopted a new composite packaging standard to authorize a plastic receptacle in a protective plastic box. Therefore, in paragraph (b)(3), the previous 6HH composite packaging would be redesignated as 6HH1 and the new composite packaging (the plastic receptacle in a protective plastic box) would be designated as 6HH2.

Section 178.601. Based on the merits of a petition (P–1195), paragraph (b) would be revised to limit the responsibility of shippers to those packaging assembly functions they actually perform or are responsible for performing. The petitioner claims that § 178.601(b) currently requires any shipper who closes a package to ensure that each package is capable of passing prescribed performance tests, thereby making the shipper legally responsible for every aspect of the manufacture and testing of the packaging. RSPA agrees, and is proposing a revision to paragraph (b)(2) to remove the shipper responsibility provision regarding packaging fabrication and testing functions not performed by the shipper. Paragraph (g)(2)(i) would be revised to clarify that selective testing under Variation 2 would require the fragile inner packagings to contain liquids. A new sentence would be added to the end of paragraph (g)(2)(vi) to clarify that where outer packagings are not leakproof or siftproof and consequently require some type of leakproof liner, plastic bag or other means of containment, sufficient absorbent material must be placed inside the liner or bag. A new paragraph (k) would be added to permit several tests to be performed on one sample if the validity of test results is not affected and if approved by the Associate Administrator for Hazardous Materials Safety. Newly designated paragraph (l) would be revised to clarify recordkeeping requirements and provide consistency with test report requirements in the UN Recommendations.

Section 178 602. In paragraph (c) a reference to "§ 178.603(d)(2)" would be corrected to read "§ 178.603(e)".

Section 178.603. In paragraph (a), a new provision would be added to require that the drop test be performed using the package orientation most likely to result in failure if more than one orientation is possible. Paragraph (c) would be revised to clarify that the cold drop test outlined in this paragraph applies only to plastic packagings. A proposed revision to paragraph (f)(1) would clarify that inner packagings of combination packagings are not required to be vented to reach equilibrium after the drop test.

Section 178.604. For consistency with a change in the UN Recommendations, the length of time to conduct a leakproofness test, other than for production testing, would be specified as five minutes in revised paragraph (d)

Rulemaking Analyses and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This proposed rule is not considered a significant regulatory action under section 3(f) of Executive Order 12866 and therefore, was not reviewed by the Office of Management and Budget. The rule is not considered a significant rule under the Regulatory Policies and Procedures of the Department of Transportation [44 FR 11034]. A preliminary regulatory evaluation is available for review in the Docket.

B Executive Order 12612

This proposed rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 ("Federalism"). The Hazardous Materials Transportation Act contains an express preemption provision (49 App. U.S C 1804(a)(4)) that preempts

State, local, and Indian tribe requirements on certain covered subjects Covered subjects are:

(i) the designation, description, and classification of hazardous materials;

(ii) the packing, repacking, handling, labeling, marking, and placarding of hazardous materials,

(iii) the preparation, execution, and use of shipping documents pertaining to hazardous materials and requirements respecting the number, content, and placement of such documents;

(iv) the written notification, recording, and reporting of the unintentional release in transportation of hazardous materials, or

(v) the design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a package or container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous materials.

This notice of proposed rulemaking addresses covered subjects under items i, ii, iii and v above and, if adopted as final, would preempt State, local, or Indian tribe requirements not meeting the "substantively the same" standard. The HMTA (49 App U.S.C. 1804(a)(5), as amended, provides that if DOT issues a regulation concerning any of the covered subjects, after November 16, 1990, DOT must determine and publish in the **Federal Register** the effective date of Federal preemption. The effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance RSPA has determined that the effective date of Federal preemption for these requirements will be [insert date six months after date of publication]. Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

C Regulatory Flexibility Act

This proposed rule would incorporate changes introduced in the seventh and eighth revised editions of the UN Recommendations, the 1993–1994 and 1995–1996 ICAO Technical Instructions, and Amendments 26 and 27 to the IMDG Code It would apply to offerors and carriers of hazardous materials and would facilitate the transportation of hazardous materials in international commerce by providing consistency with international requirements. U S companies, including numerous small entities competing in foreign markets, will be forced to comply with a dual system of regulation, to their economic disadvantage, if the changes proposed in this NPRM are not adopted. The proposed changes are intended to avoid this result. I certify that this proposal will not, if promulgated, have a significant economic impact on a substantial number of small entities This certification is subject to modification as a result of a review of comments received in response to this proposal

D Paperwork Reduction Act

The requirements for information collection have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act Of 1980 (Pub L. 96–511) under OMB control number 2137–0034 for shipping papers and 2137–0557 for approvals.

E Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda

List of Subjects

49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Incorporation by reference, Reporting and recordkeeping requirements.

49 CFR Part 172

Hazardous materials transportation, Hazardous waste, Labels, Markings, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 173

Hazardous materials transportation, Packaging and containers, Radioactive materials, Reporting and recordkeeping requirements, Uranium

49 CFR Part 175

Air carriers, Hazardous materials transportation, Radioactive materials, Reporting and recordkeeping requirements

49 CFR Part 176

Hazardous materials transportation, Maritime carriers, Radioactive materials, Reporting and recordkeeping requirements

49 CFR Part 177

Hazardous materials transportation, Motor carriers, Radioactive materials, Reporting and recordkeeping requirements

49 CFR Part 178

Hazardous materials transportation, Motor vehicles safety, Packaging and containers, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR Chapter I would be amended as follows

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1 The authority citation for Part 171 would continue to read as follows:

Authority: 49 App U S.C. 1802, 1803, 1804, 1805, 1808, and 1818; 49 CFR part 1

2. In the § 171.7(a)(3) Table, under the entry *American Society for Testing and Materials* a new entry would be added in numerical order; under the entry *International Organization for Standardization*, two new entries would be added at the end of existing entries; and a new entry would be added in alphabetical order, to read as follows:

§ 171.7 Reference material.

(a) * * *

(3) *Table of material incorporated by reference.* * * *

Source and name of material	49 CFR reference
* * * * * * *	
American Society for Testing and Materials	
* * * * * * *	
ASTM G 31–72 Practice for Laboratory Immersion Corrosion Testing of Metals (Reapproved 1990)	173 137

Source and name of material	49 CFR reference
International Organization for Standardization	
ISO 3574–1986(E) Cold-reduced carbon-steel sheet of commercial and drawing qualities	178.503
ISO 2592–1973 Petroleum Products—Determination of Flash and Fire Points Cleveland Cup Method, 1973	173.120
ISO 2604 (IV)–1975 Steel Products for Pressure Purposes—Plates	173.137
Organization for Economic Cooperation and Development (OECD)	
OECD Publications and Information Center, 2001 L Street, Suite 700, Washington, DC 20036	
OECD Guideline for Testing of Chemicals, No.404 "Acute Dermal Irritation/Corrosion", 1992	173.136

* * * * *

§ 171.7 [Amended]

3. In addition, in § 171.7, in the table in paragraph (a)(3), the following changes would be made:

a. In the entry ASTM D 56–79, the wording "D 56–79" would be revised to read "D 56–87".

b. In the entry ASTM D 93–80, the wording "D 93–80" would be revised to read "D 93–90".

c. In the entry ASTM D 3278–78, the wording "D 3278–78" would be revised to read "ASTM D 3278–89".

d. In the entry ASTM D 4359–84, the wording "D 4359–84" would be revised to read "ASTM D 4359–90".

e. Under International Civil Aviation Organization (ICAO), for the entry "Technical Instructions for the Safe Transport of Dangerous Goods by Air", the date "1993–1994" would be revised to read "1995–1996".

f. Under International Maritime Organization (IMO), the entry "International Maritime Dangerous Goods (IMDG) Code, 1990 Consolidated Edition, as amended by Amendment 26 thereto" would be amended by removing the wording "Amendment 26" and replacing it with "Amendment 27".

g. Under International Organization for Standardization, the words "ISO–535–1976(E)" would be revised to read "ISO–535–1991(E)".

h. Under Transport Canada, the entry "Transportation of Dangerous Goods Regulations, as of July 1, 1985, incorporating Registration Numbers SOR/85–77, SOR/85–585 and SOR/85–609" would be revised to read "Transportation of Dangerous Goods Regulations, 1 July 1985, SOR/85/77, incorporating the following Registration Numbers: SOR/85–314, SOR/85–585, SOR/85–609, SOR/86–526, SOR/88–635, SOR/87–335, SOR/87–186, SOR/89–39, SOR/89–294, SOR/90–847, SOR/91–711, SOR/91–712, SOR/92–447, SOR/92–600, SOR/93–203, SOR/93–274, SOR/93–525, SOR/94–146 and SOR/94–264".

i. Under United Nations, for the entry "UN Recommendations on the Transport of Dangerous Goods, Sixth Revised Edition (1989)" the wording "Sixth Revised Edition (1989)" would be revised to read "Eighth Revised Edition (1993)".

j. Under United Nations, for the entry "UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria", in column 2, the references "173.124;" "173.128;" "173.166;" and "173.185" would be added in appropriate numerical order.

4. In § 171.8, the following definitions would be added or revised, as indicated, in appropriate alphabetical order to read as follows:

§ 171.8 Definitions and abbreviations.

[Add:]

* * * * *

Asphyxiant gas means a gas which dilutes or replaces oxygen normally in the atmosphere.

* * * * *

Gas means a material which, at a standard pressure of 101.3 kPa (14.7 psi), has a vapor pressure greater than 300 kPa (43.5 psi) at 50 °C (122 °F) or is completely gaseous at 20 °C (68 °F).

* * * * *

Siftproof packaging means a packaging impermeable to dry contents, including fine solid material produced during transportation.

* * * * *

[Revise:]

* * * * *

Box means a packaging with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fiberboard, plastic, or other suitable material. Small holes for purposes such as ease of handling or opening, or to meet classification requirements, are permitted as long as they do not compromise the integrity of the packaging during transportation, and are not otherwise prohibited in this subchapter.

* * * * *

Liquid means a material, other than an elevated temperature material, with a melting point or initial melting point of 20 °C (68 °F) or lower at a standard pressure of 101.3 kPa (14.7 psi). A viscous material for which a specific melting point cannot be determined must be subjected to the procedures specified in ASTM D 4359–90 "Standard Test Method for Determining Whether a Material is Liquid or Solid".

* * * * *

Overpack, except as provided in subpart K of part 178 of this subchapter, means an enclosure that is used by a single consignor to provide protection or convenience in handling of a package or to consolidate two or more packages. *Overpack* does not include a transport vehicle, freight container, or aircraft unit load device. Examples of overpacks are one or more packages:

(1) Placed or stacked onto a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means; or

(2) Placed in a protective outer packaging such as a box or crate.

* * * * *

Solid means a material which is not a gas or a liquid.

* * * * *

UN standard packaging means a packaging conforming to standards in the UN Recommendations on the Transport of Dangerous Goods.

* * * * *

§ 171.11 [Amended]

5. In § 171.11, in the last sentence of paragraph (d)(5), the wording "Poison" would be revised to read "'Poison' or 'Toxic'".

§ 171.12 [Amended]

6. In § 171.12, the following changes would be made:

a. In paragraph (b) introductory text, in the second sentence, the wording

"stowed and segregated, and certified in accordance with the IMDG Code" would be revised to read "stowed and segregated, and certified (including a container packing certification, if applicable) in accordance with the IMDG Code".

b In the first sentence of paragraph (c) introductory text, the wording "being imported into or exported from the United States or" would be removed.

§ 171.14 [Amended]

7 In § 171 14, paragraph (c)(3) would be removed

PART 172—HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, AND TRAINING REQUIREMENTS

8 The authority citation for part 172 would continue to read as follows.

Authority: 49 App. U S C 1803, 1804, 1805, 1808, 49 CFR part 1, unless otherwise noted

9 In § 172.101, paragraphs (c)(3), (c)(13) and (k)(1) through (k)(5) would be revised and, in paragraph (g), a new sentence would be added as the last sentence to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

(c) * * *

(3) The word "poison" or "poisonous" may be used interchangeably with the word "toxic" when only domestic transportation is involved. The abbreviation "n.o.i." or "n.o.i b.n." may be used interchangeably with "n.o s ".

* * * * *

(13) *Self-reactive materials and organic peroxides.* Generic proper shipping names for self-reactive materials and organic peroxides, as listed in Column 2 of the Table, must be selected based on the material's technical name and concentration, in accordance with the provisions of §§ 173.224 or 173 225 of this subchapter, respectively

* * * * *

(g) * * * No label is required for a material classed as a combustible liquid or for a Class 3 material that is reclassed as a combustible liquid.

* * * * *

(k) * * *

(1) Stowage category "A" means the material may be stowed "on deck" or "under deck" on a passenger or cargo vessel.

(2) Stowage category "B" means—

(i) The material may be stowed "on deck" or "under deck" on a cargo vessel;

(ii) The material may be stowed "under deck" on a passenger vessel carrying not more than 25 passengers or, alternatively, one passenger per each three meters of overall vessel length, whichever is larger; and

(iii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(ii) of this section is exceeded

(3) Stowage category "C" means the material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.

(4) Stowage category "D" means material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each three meters of overall vessel length, but is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

(5) Stowage category "E" means material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each three meters of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

* * * * *

§ 172.101 [Amended]

10 In addition, in § 172 101, in paragraph (c)(12)(iii), the last sentence would be removed.

11. In § 172 101, the Hazardous Materials Table would be revised to read as follows

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

§172.101 HAZARDOUS MATERIALS TABLE

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or railcar	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Accelerene, see p-Nitrosodimethylaniline												
	Accumulators, electric, see Batteries, wet etc.												
D	Accumulators, pressurized, pneumatic or hydraulic *(containing non-flammable gas)*	2.2	NA1956		NONFLAMMABLE GAS		306	306	None	No limit	No limit	E	
	Acetal	3	UN1088	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	E	
	Acetaldehyde	3	UN1089	I	FLAMMABLE LIQUID	A3, B16, T20, T26, T29	None	201	243	Forbidden	30 L	E	
A	Acetaldehyde ammonia	9	UN1841	III	CLASS 9		155	304	240	200 kg	200 kg	A	34
	Acetaldehyde oxime	3	UN2332	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	
	Acetic acid, glacial *or* Acetic acid solution, *with more than 80 percent acid, by mass*	8	UN2789	II	CORROSIVE, FLAMMABLE LIQUID.	A3, A6, A7, A10, B2, T8	154	202	243	1 L	30 L	A	
	Acetic acid solution, *with more than 10 percent but not more than 80 percent acid, by mass*	8	UN2790	II	CORROSIVE	A3, A6, A7, A10, B2, T8	154	202	242	1 L	30 L	A	
	Acetic anhydride	8	UN1715	II	CORROSIVE, FLAMMABLE LIQUID.	A3, A6, A7, A10, B2, T8	154	202	243	1 L	30 L	A	40
	Acetone	3	UN1090	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Acetone cyanohydrin, stabilized	6.1	UN1541	I	POISON	2, A3, B9, B14, B52, B76, B77, N34, T38, T43, T45	None	227	244	Forbidden	30 L	D	25, 40, 49
	Acetone oils	3	UN1091	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
	Acetonitrile	3	UN1648	II	FLAMMABLE LIQUID	T14	150	202	242	1 L	60 L	B	40
	Acetonitrile, see Methyl cyanide												
	Acetyl acetone peroxide with more than 9 percent by mass active oxygen	Forbidden											
	Acetyl benzoyl peroxide, solid, or with more than 40 percent in solution	Forbidden											
	Acetyl bromide	8	UN1716	II	CORROSIVE	B2, T12, T26	154	202	242	1 L	30 L	C	40
	Acetyl chloride	3	UN1717	II	FLAMMABLE LIQUID, CORROSIVE.	A3, A6, A7, N34, T18, T26	None	202	243	1 L	5 L	B	40
	Acetyl cyclohexanesulfonyl peroxide, with more than 82 percent wetted with less than 12 percent water	Forbidden											
	Acetyl iodide	8	UN1898	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	C	40
	Acetyl methyl carbinol	3	UN2621	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Acetyl peroxide, solid, or with more than 25 percent in solution	Forbidden											
	Acetylene, dissolved	2.1	UN1001		FLAMMABLE GAS		None	303	None	Forbidden	15 kg	D	25, 40, 57
	Acetylene (liquefied)	Forbidden											
	Acetylene silver nitrate	Forbidden											
	Acetylene tetrabromide, see Tetrabromoethane												
	Acid butyl phosphate, see Butyl acid phosphate												
	Acid, sludge, *see* Sludge acid												
	Acridine	6.1	UN2713	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Acrolein dimer, stabilized	3	UN2607	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Acrolein, inhibited	6.1	UN1092	I	POISON, FLAMMABLE LIQUID	1, B9, B12, B14, B30, B42, B72, B77, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	40
	Acrylamide	6.1	UN2074	III	KEEP AWAY FROM FOOD	T8	153	213	240	100 kg	200 kg	A	12
	Acrylic acid, inhibited	8	UN2218	II	CORROSIVE, FLAMMABLE LIQUID.	B2, T8	154	202	243	1 L	30 L	C	25, 40
	Acrylonitrile, inhibited	3	UN1093	I	FLAMMABLE LIQUID, POISON.	B9, T18, T26	None	201	243	Forbidden	30 L	E	40
	Actuating cartridge, explosive, see Cartridges, power device												
	Adhesives, *containing a flammable liquid*	3	UN1133	II	FLAMMABLE LIQUID	B52, T7, T30	150	173	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	173	242	60 L	220 L	A	
	Adiponitrile	6.1	UN2205	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	Aerosols, *corrosive, Packing Group II or III, (each not exceeding 1 L capacity)*	2.2	UN1950		NONFLAMMABLE GAS, CORROSIVE.	A34	306	None	None	75 kg	150 kg	A	40, 48, 85
	Aerosols, *flammable, (each not exceeding 1 L capacity)*	2.1	UN1950		FLAMMABLE GAS	N82	306	None	None	75 kg	150 kg	A	4*

	Aerosols, *non-flammable, (each not exceeding 1 L capacity)*	2.2	UN1950		NONFLAMMABLE GAS		306, 307	None	None	75 kg	150 kg	A	48, [illegible]
	Aerosols, *poison, each not exceeding 1 L capacity*	2.2	UN1950		NONFLAMMABLE GAS		306	None	None	Forbidden	Forbidden	A	40, 48, 85
	Air bag inflators *or* Air bag modules *or* Seat-belt pre-tensioners *or* Seat belt modules	9	UN3268	III	CLASS 9		166	166	166	25 kg	100 kg	A	
	Air, compressed	2.2	UN1002		NONFLAMMABLE GAS		306	302	302	75 kg	150 kg	A	
	Air, refrigerated liquid, *(cryogenic liquid)*	2.2	UN1003		NONFLAMMABLE GAS, OXIDIZER		320	316	318, 319	Forbidden	150 kg	D	51
	Air, refrigerated liquid, *(cryogenic liquid) non-pressurized*	2.2	UN1003		NONFLAMMABLE GAS, OXIDIZER		320	316	318 319	Forbidden	Forbidden	D	51
	Aircraft evacuation slides, *see* Life saving appliances *etc.*												
	Aircraft hydraulic power unit fuel tank *(containing a mixture of anhydrous hydrazine and monomethyl hydrazine) (M86 fuel)*	3	UN3165	I	FLAMMABLE LIQUID, POISON, CORROSIVE		None	172	None	Forbidden	42 L	E	
	Aircraft survival kits, *see* Life saving appliances *etc.*												
	Alcoholates solution, n.o.s., *in alcohol*	3	UN3274	II	FLAMMABLE LIQUID, CORROSIVE		None	202	243	1 L	5 L	B	
	Alcoholic beverages	3	UN3065	II	FLAMMABLE LIQUID	24, B1, T1	150	202	242	5 L	60 L	A	
				III	FLAMMABLE LIQUID	24, B1, N11, T1	150	203	242	60 L	220 L	A	
	Alcohols, n.o.s.	3	UN1987	I	FLAMMABLE LIQUID	T8, T31	None	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Alcohols, toxic, n.o.s.	3	UN1986	I	FLAMMABLE LIQUID, POISON	T8, T31	None	201	243	Forbidden	30 L	E	40
				II	FLAMMABLE LIQUID, POISON	T8, T31	None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T8, T31	None	203	242	60 L	220 L	A	
	Aldehydes, n.o.s.	3	UN1989	I	FLAMMABLE LIQUID	T8, T31	None	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Aldehydes, toxic, n.o.s.	3	UN1988	I	FLAMMABLE LIQUID, POISON	T8, T31	None	201	243	Forbidden	30 L	E	40
				II	FLAMMABLE LIQUID, POISON	T8, T31	None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1 T8 T31	150	203	242	60 L	220 L	A	
	Aldol	6.1	UN2839	II	POISON	T8	None	202	243	5 L	60 L	A	12
D	Aldrin, *liquid*	6.1	NA2762	II	POISON		None	202	243	5 L	60 L	B	
D	Aldrin, *solid*	6.1	NA2761	II	POISON		None	212	242	25 kg	100 kg	A	40
	Alkali metal alcoholates, self-heating, corrosive, n.o.s.	4.2	UN3206	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	212	242	15 kg	50 kg	B	
				III	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	213	242	25 kg	100 kg	B	
	Alkali metal alloys, liquid, n.o.s.	4.3	UN1421	I	DANGEROUS WHEN WET	A2, A3 B48, N34	None	201	244	Forbidden	1 L	D	
	Alkali metal amalgams	4.3	UN1389	I	DANGEROUS WHEN WET	A2, A3, N34	None	201	244	Forbidden	1 L	D	
	Alkali metal amides	4.3	UN1390	II	DANGEROUS WHEN WET	A6, A7, A8, A19, A20	None	212	241	15 kg	50 kg	E	40
	Alkali metal dispersions, *or* Alkaline earth metal dispersions	4.3	UN1391	I	DANGEROUS WHEN WET	A2, A3	None	201	244	Forbidden	1 L	D	
	Alkaline corrosive liquids, n.o.s., see Caustic alkali liquids, n.o.s.												
	Alkaline earth metal alcoholates, n.o.s.	4.2	UN3205	II	SPONTANEOUSLY COMBUSTIBLE		None	212	241	15 kg	50 kg	B	
				III	SPONTANEOUSLY COMBUSTIBLE		None	213	241	15 kg	100 kg	B	
	Alkaline earth metal alloys, n.o.s.	4.3	UN1393	II	DANGEROUS WHEN WET	A19	None	212	241	15 kg	50 kg	E	
	Alkaline earth metal amalgams	4.3	UN1392	I	DANGEROUS WHEN WET	A19, N34, N40	None	211	242	Forbidden	15 kg	D	
	Alkaloids, liquid, n.o.s., *or* Alkaloid salts, liquid, n.o.s.	6.1	UN3140	I	POISON	A4, T42	None	201	243	1 L	30 L	A	
				II	POISON	T14	None	202	243	5 L	60 L	A	
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Alkaloids, solid, n.o.s. *or* Alkaloid salts, solid, n.o.s. *poisonous*	6.1	UN1544	I	POISON		None	211	242	5 kg	50 kg	A	
				II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Alkyl sulfonic acids, liquid *or* Aryl sulfonic acids, liquid *with more than 5 percent free sulfuric acid*	8	UN2584	II	CORROSIVE	B2, T8, T27	154	202	242	1 L	30 L	B	
	Alkyl sulfonic acids, liquid *or* Aryl sulfonic acids, liquid *with not more than 5 percent free sulfuric acid*	8	UN2586	III	CORROSIVE	T8	154	203	241	5 L	60 L	B	

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or rail car	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Alkyl sulfonic acids, solid or Aryl sulfonic acids, solid, with more than 5 percent free sulfuric acid	8	UN2583	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
	Alkyl sulfonic acids, solid or Aryl sulfonic acids, solid with not more than 5 percent free sulfuric acid	8	UN2585	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Alkylphenols, liquid, n.o.s. (including C2-C12 homologues)	8	UN3145	I	CORROSIVE	T8	None	201	243	0.5 L	2.5 L	B	
				II	CORROSIVE	T8	154	202	242	1 L	30 L	B	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Alkylphenols, solid, n.o.s. (including C2-C12 homologues)	8	UN2430	I	CORROSIVE	T8	None	211	242	1 kg	25 kg	B	
				II	CORROSIVE	T8	154	212	240	15 kg	50 kg	B	
				III	CORROSIVE	T8	154	213	240	25 kg	100 kg	A	
	Alkylsulfuric acids	8	UN2571	II	CORROSIVE	B2, T9, T27	154	202	242	1 L	30 L	C	14
	Allethrin, see Pesticides, liquid, toxic, n.o.s.												
	Allyl acetate	3	UN2333	II	FLAMMABLE LIQUID, POISON	T8	None	202	243	1 L	60 L	E	40
	Allyl alcohol	6.1	UN1098	II	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Allyl bromide	3	UN1099	I	FLAMMABLE LIQUID, POISON	T18	None	201	243	Forbidden	30 L	B	40
	Allyl chloride	3	UN1100	II	FLAMMABLE LIQUID, POISON	T18, T26	None	201	243	Forbidden	30 L	E	40
	Allyl chlorocarbonate, see Allyl chloroformate												
	Allyl chloroformate	6.1	UN1722	II	POISON, FLAMMABLE LIQUID, CORROSIVE	1, A3, B9, B14, B30, B72, N41, T26, T43, T44	None	226	244	Forbidden	Forbidden	D	40
	Allyl ethyl ether	3	UN2335	II	FLAMMABLE LIQUID, POISON	T8	None	202	243	1 L	60 L	E	40
	Allyl formate	3	UN2336	II	FLAMMABLE LIQUID, POISON	T18, T26	None	201	243	Forbidden	30 L	E	40
	Allyl glycidyl ether	3	UN2219	III	FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A	
	Allyl iodide	3	UN1723	II	FLAMMABLE LIQUID, CORROSIVE	A3, A6, N34, T18	None	202	243	1 L	5 L	B	40
†	Allyl isothiocyanate, stabilized	6.1	UN1545	II	POISON	2, A3, A7, B2, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	30 L	D	40
	Allylamine	6.1	UN2334	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Allyltrichlorosilane, stabilized	8	UN1724	II	CORROSIVE, FLAMMABLE LIQUID	A7, B2, B6, N34, T8, T26	None	202	243	Forbidden	30 L	C	40
	Aluminum processing by-products	4.3	UN3170	I	DANGEROUS WHEN WET		None	219	242	15 kg	50 kg	B	85, 103
				III	DANGEROUS WHEN WET		None	219	241	25 kg	100 kg	B	85, 103
	Aluminum alkyl halides	4.2	UN3052	I	SPONTANEOUSLY COMBUSTIBLE	B9, B11, T28, T29, T40	None	181	244	Forbidden	Forbidden	D	
	Aluminum alkyl hydrides	4.2	UN3076	I	SPONTANEOUSLY COMBUSTIBLE	B9, B11, T28, T29, T40	None	181	244	Forbidden	Forbidden	D	
	Aluminum alkyls	4.2	UN3051	I	SPONTANEOUSLY COMBUSTIBLE	B9, B11, T28, T29, T40	None	181	244	Forbidden	Forbidden	D	
	Aluminum borohydride or Aluminum borohydride in devices	4.2	UN2870	I	SPONTANEOUSLY COMBUSTIBLE, DANGEROUS WHEN WET	B11	None	181	244	Forbidden	Forbidden	D	
	Aluminum bromide, anhydrous	8	UN1725	II	CORROSIVE		154	212	240	15 kg	50 kg	A	40
	Aluminum bromide, solution	8	UN2580	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	
	Aluminum carbide	4.3	UN1394	II	DANGEROUS WHEN WET	A20, N41	None	212	242	15 kg	50 kg	A	
	Aluminum chloride, anhydrous	8	UN1726	II	CORROSIVE		154	212	240	15 kg	50 kg	A	40
	Aluminum chloride, solution	8	UN2581	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	
	Aluminum dross, wet or hot	Forbidden											
	Aluminum ferrosilicon powder	4.3	UN1395	II	DANGEROUS WHEN WET, POISON	A19	None	212	242	15 kg	50 kg	A	40, 85, 103

				III	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD	A19, A20	None	213	241	25 kg	100 kg	A		40, 85 103
	Aluminum hydride	4.3	UN2463	I	DANGEROUS WHEN WET	A19, N40	None	211	242	Forbidden	15 kg	E		
D	Aluminum, molten	9	NA9250	III	CLASS 9		None	None	247	Forbidden	Forbidden	D		
	Aluminum nitrate	5.1	UN1438	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A		
	Aluminum phosphate solution, see Corrosive liquids, n.o.s.													
	Aluminum phosphide	4.3	UN1397	I	DANGEROUS WHEN WET, POISON.	A8, A18, N40	None	211	242	Forbidden	15 kg	E		40, 85
	Aluminum phosphide pesticides	6.1	UN3048	I	POISON	A8	None	211	242	Forbidden	15 kg	E		40, 85
	Aluminum powder coated	4.1	UN1309	II	FLAMMABLE SOLID		151	212	240	15 kg	50 kg	A		13, 39, 101
				III	FLAMMABLE SOLID		151	213	240	25 kg	100 kg	A		13, 39, 101
	Aluminum powder, uncoated	4.3	UN1396	II	DANGEROUS WHEN WET	A19, A20	None	212	242	15 kg	50 kg	A		39
				III	DANGEROUS WHEN WET	A19, A20	None	213	241	25 kg	100 kg	A		39
	Aluminum resinate	4.1	UN2715	III	FLAMMABLE SOLID		151	213	240	25 kg	100 kg	A		
	Aluminum silicon powder, uncoated	4.3	UN1398	III	DANGEROUS WHEN WET	A1, A19	None	213	241	25 kg	100 kg	A		40, 85, 103
	Amatols, see Explosives, blasting, type B													
	Amines, flammable, corrosive, n.o.s. *or* Polyamines, flammable, corrosive, n.o.s.	3	UN2733	I	FLAMMABLE LIQUID, CORROSIVE	T42	None	201	243	0.5 L	2.5 L	D		40
				II	FLAMMABLE LIQUID, CORROSIVE	T8, T31	None	202	243	1 L	5 L	B		40
				III	FLAMMABLE LIQUID, CORROSIVE.	B1, T8, T31	150	203	242	5 L	60 L	A		40
	Amines, liquid, corrosive, flammable, n.o.s. *or* Polyamines, liquid, corrosive, flammable, n.o.s.	8	UN2734	I	CORROSIVE, FLAMMABLE LIQUID	A3, A6, N34, T8 T31	None	201	243	0.5 L	2.5 L	A		
				II	CORROSIVE, FLAMMABLE LIQUID	T8, T31	None	202	243	1 L	30 L	A		
	Amines, liquid, corrosive n.o.s, *or* Polyamines, liquid corrosive, n.o.s.	8	UN2735	I	CORROSIVE	A3 A6, B10, N34, T42.	None	201	243	0.5 L	2.5 L	A		
				II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A		
				II	CORROSIVE	T8	154	203	241	5 L	60 L	A		
	Amines, solid, corrosive, n.o.s., *or* Polyamines, solid, corrosive n.o.s.	8	UN3259	II	CORROSIVE		None	211	242	1 kg	25 kg	A		
				III	CORROSIVE		154	212	240	15 kg	50 kg	A		
				III	CORROSIVE		154	213	240	25 kg	100 kg	A		
	2-Amino-4-chlorophenol	6.1	UN2673	II	POISON		None	212	242	25 kg	100 kg	A		
	2-Amino-5-diethylaminopentane	6.1	UN2946	II	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A		
	2-(2-Aminoethoxy) ethanol	8	UN3055	III	CORROSIVE	T2	154	203	241	5 L	60 L	A		
	N-Aminoethylpiperazine	8	UN2815	III	CORROSIVE	T7	154	203	241	5 L	60 L	A		12
	Aminophenols (*o-, m-; p-*)	6.1	UN2512	III	KEEP AWAY FROM FOOD	T1	153	213	240	100 kg	200 kg	A		
	Aminopropyldiethanolamine, see Alkylamines n.o.s.													
	n-Aminopropylmorpholine, see Alkylamines, n.o.s.													
	Aminopyridines (*o-, m-; p-*)	6.1	UN2671	II	POISON	T7	None	212	242	25 kg	100 kg	B		12, 40
I	Ammonia, anhydrous liquefied *or* Ammonia solutions, *relative density less than 0.880 at 15 degrees C in water with more than 50 percent ammonia*	2.3	UN1005		POISON GAS	4	None	304	314 315	Forbidden	25 kg	D		40, 57
D	Ammonia, anhydrous, liquefied *or* Ammonia solutions, *relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia*	2.2	UN1005		NONFLAMMABLE GAS	13	None	304	314 315	Forbidden	25 kg	D		40, 57
	Ammonia solutions, *relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia*	8	UN2672	III	CORROSIVE	T14	154	203	241	5 L	60 L	A		40, 85
	Ammonia solutions, *relative density less than 0.880 at 15 degrees C in water, with more than 35 percent but not more than 50 percent ammonia*	2.2	UN2073		NONFLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E		40, 57
	Ammonium arsenate	6.1	UN1546	II	POISON		None	212	242	25 kg	100 kg	A		
	Ammonium azide	Forbidden												
	Ammonium bifluoride, solid see Ammonium hydrogen fluoride, solid													
	Ammonium bifluoride solution, see Ammonium hydrogen fluoride, solution													
	Ammonium bromate	Forbidden												
	Ammonium chlorate	Forbidden												
	Ammonium dichromate	5.1	UN1439	II	OXIDIZER		152	212	242	5 kg	25 kg	A		
	Ammonium dinitro-o-cresolate	6.1	UN1843	II	POISON	T8	None	212	242	25 kg	100 kg	B		36, 65, 66, 77
	Ammonium fluoride	6.1	UN2505	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A		26
	Ammonium fluorosilicate	6.1	UN2854	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		26

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Ammonium fulminate	Forbidden											
	Ammonium hydrogen difluoride, solid	8	UN1727	II	CORROSIVE	N34	154	212	240	15 kg	50 kg	A	25, 28, 40
	Ammonium hydrogen difluoride, solution	8	UN2817	II	CORROSIVE, POISON	N34, T15	None	202	243	1 L	30 L	B	40
				III	CORROSIVE, KEEP AWAY FROM FOOD	T6	154	203	241	5 L	60 L	B	40, 95
	Ammonium hydrogen sulfate	8	UN2506	II	CORROSIVE		154	212	240	15 kg	50 kg	A	40
	Ammonium hydrosulfide, solution, see Ammonium sulfide solution												
D	Ammonium hydroxide, *see* Ammonia solutions, etc.												
	Ammonium metavanadate	6.1	UN2859	III	POISON		None	212	242	25 kg	100 kg	A	
D	Ammonium nitrate fertilizers	5.1	NA2072	III	OXIDIZER	7	152	213	240	25 kg	100 kg	B	48, 59, 60, 117
AW	Ammonium nitrate fertilizers, *uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, with not more than 70 percent ammonium nitrate and not more than 0.4 percent total added combustible material or with not more than 45 percent ammonium nitrate with unrestricted combustible material*	9	UN2071	III	CLASS 9		155	213	240	200 kg	200 kg	A	
D	Ammonium nitrate-fuel oil mixture *containing only prilled ammonium nitrate and fuel oil*	1.5D	NA0331	II	EXPLOSIVE 1.5D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Ammonium nitrate, liquid *(hot concentrated solution)*	5.1	UN2426	II	OXIDIZER	B5, T25	None	None	243	Forbidden	Forbidden	D	59, 60
D	Ammonium nitrate mixed fertilizers	5.1	NA2069	III	OXIDIZER	10	152	213	240	25 kg	100 kg	B	48, 59, 60, 117
	Ammonium nitrate, *with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance*	1.1D	UN0222	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Ammonium nitrate, *with not more than 0.2 percent of combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance*	5.1	UN1942	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	48, 59, 60, 116
	Ammonium nitrite	Forbidden											
	Ammonium perchlorate	1.1D	UN0402	II	EXPLOSIVE 1.1D	107	None	62	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Ammonium perchlorate	5.1	UN1442	II	OXIDIZER	107, A9	152	212	242	5 kg	25 kg	E	58, 69, 106
	Ammonium permanganate	Forbidden											
	Ammonium persulfate	5.1	UN1444	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Ammonium picrate, *dry or wetted with less than 10 percent water, by mass*	1.1D	UN0004	II	EXPLOSIVE 1.1D	23, A2, N41	None	62	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Ammonium picrate, *wetted with not less than 10 percent water, by mass*	4.1	UN1310	I	FLAMMABLE SOLID		None	211	None	0.5 kg	0.5 kg	D	28, 36
	Ammonium polysulfide, solution	8	UN2818	II	CORROSIVE, POISON	T14	None	202	243	1 L	30 L	B	12, 26, 40
				III	CORROSIVE, KEEP AWAY FROM FOOD	T7	154	203	241	5 L	60 L	B	12, 26, 40
	Ammonium polyvanadate	6.1	UN2861	II	POISON		None	212	242	25 kg	100 kg	A	
	Ammonium silicofluoride, see Ammonium fluorosilicate												
	Ammonium sulfide solution	8	UN2683	II	CORROSIVE, POISON, FLAMMABLE LIQUID	T14	None	202	243	1 L	30 L	B	12, 22, 25, 100
	Ammunition, blank, see Cartridges for weapons, blank												
	Ammunition, illuminating *with or without burster, expelling charge or propelling charge*	1.2G	UN0171	II	EXPLOSIVE 1.2G			62	None	Forbidden	Forbidden	B	
	Ammunition, illuminating *with or without burster, expelling charge or propelling charge*	1.3G	UN0254	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B	
	Ammunition, illuminating *with or without burster, expelling charge or propelling charge*	1.4G	UN0297	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A	24E
	Ammunition, incendiary *liquid or gel, with burster, expelling charge or propelling charge*	1.3J	UN0247	II	EXPLOSIVE 1.3J			62	None	Forbidden	Forbidden	E	7E, 13E, 20E
	Ammunition, incendiary (water-activated contrivances) with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc.												
	Ammunition, incendiary, white phosphorus, *with burster, expelling charge or propelling charge*	1.2H	UN0243	II	EXPLOSIVE 1.2H			62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, incendiary, white phosphorus, *with burster, expelling charge or propelling charge*	1.3H	UN0244	II	EXPLOSIVE 1.3H			62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, incendiary *with or without burster, expelling charge, or propelling charge*	1.2G	UN0009	II	EXPLOSIVE 1.2G			62	None	Forbidden	Forbidden	B	

Ammunition, incendiary with or without burster, expelling charge, or propelling charge	1.3G	UN0010	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B		
Ammunition, incendiary with or without burster expelling charge or propelling charge	1.4G	UN0300	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A		24E
Ammunition, practice	1.4G	UN0362	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A		24E
Ammunition, practice	1.3G	UN0488	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B		
Ammunition, proof	1.4G	UN0363	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A		24E
Ammunition, rocket, see Warheads rocket etc.													
Ammunition, SA (small arms), see Cartridges for weapons, etc.													
Ammunition smoke (water-activated contrivances) white phosphorus, with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc. (UN 0248)													
Ammunition, smoke (water-activated contrivances), without white phosphorus or phosphides, with burster, expelling charge or propelling charge see Contrivances, water-activated, etc. (UN 0249)													
Ammunition smoke, white phosphorus with burster,expelling charge, or propelling charge	1.2H	UN0245	II	EXPLOSIVE 1.2H			62	None	Forbidden	Forbidden	E		8E, 14E, 15E, 17E
Ammunition, smoke, white phosphorus with burster, expelling charge, or propelling charge	1.3H	UN0246	II	EXPLOSIVE 1.3H			62	None	Forbidden	Forbidden	E		8E, 14E, 15E, 17E
Ammunition, smoke with or without burster, expelling charge or propelling charge	1.2G	UN0015	II	EXPLOSIVE 1.2G, CORROSIVE.			62	None	Forbidden	Forbidden	E		17E, 20E
Ammunition, smoke with or without burster, expelling charge or propelling charge	1.3G	UN0016	II	EXPLOSIVE 1.3G, CORROSIVE.			62	None	Forbidden	Forbidden	E		17E, 20E
Ammunition, smoke with or without burster, expelling charge or propelling charge	1.4G	UN0303	II	EXPLOSIVE 1.4G, CORROSIVE.			62	None	Forbidden	75 kg	E		17E, 20E
Ammunition, sporting, see Cartridges for weapons, etc. (UN 0012; UN 0328, UN 0339)													
Ammunition, tear-producing, non-explosive, without burster or expelling charge, non-fuzed	6.1	UN2017	II	POISON, CORROSIVE	None	212	None	Forbidden	50 kg		E		13, 40
Ammunition, tear-producing with burster expelling charge or propelling charge	1.2G	UN0018	II	EXPLOSIVE 1.2G, CORROSIVE, POISON.			62	None	Forbidden	Forbidden	E		20E
Ammunition, tear-producing with burster, expelling charge or propelling charge	1.3G	UN0019	II	EXPLOSIVE 1.3G, CORROSIVE, POISON			62	None	Forbidden	Forbidden	E		17E, 20E
Ammunition, tear-producing with burster, expelling charge or propelling charge	1.4G	UN0301	II	EXPLOSIVE 1.4G CORROSIVE, POISON.			62	None	Forbidden	75 kg	E		17E, 20E
Ammunition, toxic, non-explosive, without burster or expelling charge, non-fuzed	6.1	UN2016	II	POISON	None	212	None	Forbidden	100 kg		E		13, 40
Ammunition, toxic (water-activated contrivances), with burster, expelling charge or propelling charge, see Contrivances water-activated, etc.													
Ammunition, toxic with burster, expelling charge or propelling charge	1.2K	UN0020	II	EXPLOSIVE 1.2K, POISON.			62	None	Forbidden	Forbidden	E		2E, 8E, 11E, 17E
Ammunition, toxic with burster, expelling charge, or propelling charge	1.3K	UN0021	II	EXPLOSIVE 1.3K, POISON			62	None	Forbidden	Forbidden	E		2E, 8E, 11E, 17E
Amyl acetates	3	UN1104	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Amyl acid phosphate	8	UN2819	III	CORROSIVE	T7	154	203	241	5 L	60 L	A		
Amyl alcohols	3	UN1105	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B		
			III	FLAMMABLE LIQUID	B1, B3, T1	150	203	242	60 L	220 L	A		
Amyl butyrates	3	UN2620	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Amyl chlorides	3	UN1107	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B		
Amyl formates	3	UN1109	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Amyl mercaptans	3	UN1111	II	FLAMMABLE LIQUID	A3, T8	None	202	242	5 L	60 L	B		95, 102
Amyl methyl ketone	3	UN1110	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Amyl nitrate	3	UN1112	III	FLAMMABLE LIQUID	B1 T1	150	203	242	60 L	220 L	A		
Amyl nitrites	3	UN1113	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E		40
Amylamines	3	UN1106	II	FLAMMABLE LIQUID, CORROSIVE.	T1	None	202	243	1 L	5 L	B		40
			III	FLAMMABLE LIQUID, CORROSIVE	B1	150	203	242	5 L	60 L	A		
n-Amylene	3	UN1108	II	FLAMMABLE LIQUID	T14	150	201	243	1 L	30 L	E		
Amyltrichlorosilane	8	UN1728	II	CORROSIVE	A7, B2 B6, N34, T8, T26.	None	202	242	Forbidden	30 L	C		40
Anhydrous ammonia see Ammonia, anhydrous, liquefied													
Anhydrous hydrofluoric acid see Hydrogen fluoride, anhydrous													
Aniline	6.1	UN1547	II	POISON	T8	None	202	243	5 L	60 L	A		40
Aniline hydrochloride	6.1	UN1548	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A		
Aniline oil, see Aniline													

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Anisidines	6.1	UN2431	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	Anisole	3	UN2222	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Anisoyl chloride	8	UN1729	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	C	40
	Anti-freeze, liquid, see Flammable liquids, n.o.s.												
	Antimonious chloride, see Antimony trichloride.												
	Antimony compounds, inorganic, liquid, n.o.s.	6.1	UN3141	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Antimony compounds, inorganic, solid, n.o.s.	6.1	UN1549	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Antimony lactate	6.1	UN1550	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Antimony pentachloride, liquid	8	UN1730	II	CORROSIVE	B2, T8, T26	None	202	242	1 L	30 L	C	40
	Antimony pentachloride, solutions	8	UN1731	II	CORROSIVE	B2, T8, T27	154	202	242	1 L	30 L	C	40
				III	CORROSIVE	T7, T26	154	203	241	5 L	60 L	C	40
	Antimony pentafluoride	8	UN1732	II	CORROSIVE, POISON	A3, A6, A7, A10, N3, T12, T26,	None	202	243	Forbidden	30 L	D	40
	Antimony potassium tartrate	6.1	UN1551	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Antimony powder	6.1	UN2871	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Antimony sulfide and a chlorate, mixtures of	Forbidden											
	Antimony sulfide, solid, see Antimony compounds, inorganic, n.o.s.												
	Antimony tribromide, solid	8	NA1549	II	CORROSIVE		154	212	240	25 kg	100 kg	A	13
D	Antimony tribromide, solution	8	NA1549	II	CORROSIVE		154	202	242	1 L	30 L	C	13
D	Antimony tribromide, solution	8	UN1733	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	40
	Antimony trichloride, liquid	8	UN1733	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	40
	Antimony trichloride, solid	8	NA1549	II	CORROSIVE		154	212	240	15 kg	50 kg	A	40
D	Antimony trifluoride, solid	8	NA1549	II	CORROSIVE		154	212	240	25 kg	25 kg	A	13
D	Antimony trifluoride solution					B2	154	202	242	1 L	30 L	C	13
	Aqua ammonia, see Ammonia solution, etc.												
	Argon, compressed	2.2	UN1006		NONFLAMMABLE GAS		306	302	314, 316	75 kg	150 kg	A	
	Argon, refrigerated liquid *(cryogenic liquid)*	2.2	UN1951		NONFLAMMABLE GAS		320	316	318	50 kg	500 kg	B	
	Arsenic	6.1	UN1558	II	POISON		None	212	242	25 kg	100 kg	A	
	Arsenic acid, liquid	6.1	UN1553	I	POISON	T16, T27	None	201	243	1 L	30 L	B	46
	Arsenic acid, solid	6.1	UN1554	II	POISON		None	212	242	25 kg	100 kg	A	
	Arsenic bromide	6.1	UN1555	II	POISON		None	212	242	25 kg	100 kg	A	12, 40
	Arsenic chloride, see Arsenic trichloride												
	Arsenic compounds, liquid, n.o.s. *including arsenates n.o.s.; arsenites, n.o.s., arsenic sulfides, n.o.s., and organic compounds of arsenic, n.o.s.*	6.1	UN1556	I	POISON		None	201	243	1 L	30 L	B	40
				II	POISON		None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	B	40
	Arsenic compounds, solid, n.o.s. *including arsenates, n.o.s., arsenites, n.o.s., arsenic sulfides, n.o.s., and organic compounds of arsenic, n.o.s*	6.1	UN1557	I	POISON		None	211	242	5 kg	50 kg	A	
				II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Arsenic pentoxide	6.1	UN1559	II	POISON		None	212	242	25 kg	100 kg	A	
	Arsenic sulfide	6.1	NA1557	II	POISON		None	212	242	25 kg	100 kg	A	
D	*Arsenic sulfide and a chlorate, mixtures of*	Forbidden											
	Arsenic trichloride	6.1	UN1560	I	POISON	2, B9, B14, B32, B74, T38, T45	None	227	244	Forbidden	Forbidden	B	40
	Arsenic trioxide	6.1	UN1561	II	POISON		None	212	242	25 kg	100 kg	A	
	Arsenic trisulfide	6.1	NA1557	II	POISON		None	212	242	25 kg	100 kg	A	
D	*Arsenic, white, solid, see* Arsenic trioxide												
	Arsenical dust	6.1	UN1562	II	POISON		None	212	242	25 kg	100 kg	A	
	Arsenical pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2760	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40

			III	FLAMMABLE LIQUID KEEP AWAY FROM FOOD	B1		150	203	242	60 L	220 L	B	40
Arsenical pesticides, liquid, toxic	6.1	UN2994	I	POISON	T42		None	201	243	1 L	30 L	B	40
			II	POISON	T14		None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD.	T14		153	203	241	60 L	220 L	A	40
Arsenical pesticides, liquid, toxic, flammable *flashpoint not less than 23 degrees C*	6.1	UN2993	I	POISON, FLAMMABLE LIQUID	T42		None	201	243	1 L	30 L	B	40
			II	POISON, FLAMMABLE LIQUID	T14		None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14		153	203	242	60 L	220 L	A	40
Arsenical pesticides, solid, toxic	6.1	UN2759	I	POISON			None	211	242	5 kg	50 kg	A	40
			II	POISON			None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD			153	213	240	100 kg	200 kg	A	40
Arsenious acid, solid, see Arsenic trioxide													
Arsenious and mercuric iodide solution, see Arsenic compounds, liquid, n.o.s.													
Arsine	2.3	UN2188		POISON GAS, FLAMMABLE GAS.	1		None	192	245	Forbidden	Forbidden	D	40
Articles explosive, extremely insensitive *or* Articles, EEI	1.6N	UN0486	II	EXPLOSIVE 1.6N	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.4S	UN0349	II	EXPLOSIVE 1.4S	101		None	62	None	25 kg	100 kg	A	
Articles, explosive, n.o.s.	1.4B	UN0350	II	EXPLOSIVE 1.4B	101		None	62	None	Forbidden	Forbidden	A	24E
Articles, explosive, n.o.s.	1.4C	UN0351	II	EXPLOSIVE 1.4C	101		None	62	None	Forbidden	Forbidden	A	24E
Articles, explosive, n.o.s.	1.4D	UN0352	II	EXPLOSIVE 1.4D	101		None	62	None	Forbidden	Forbidden	A	24E
Articles, explosive, n.o.s.	1.4G	UN0353	II	EXPLOSIVE 1.4G	101		None	62	None	Forbidden	Forbidden	A	24E
Articles, explosive, n.o.s.	1.1L	UN0354	II	EXPLOSIVE 1.1L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
Articles explosive, n.o.s.	1.2L	UN0355	II	EXPLOSIVE 1.2L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
Articles, explosive, n.o.s.	1.3L	UN0356	II	EXPLOSIVE 1.3L	101		None	62	None	Forbidden	Forbidden	E	2E 8E, 11E, 17E
Articles, explosive, n.o.s.	1.1C	UN0462	II	EXPLOSIVE 1.1C	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.1D	UN0463	II	EXPLOSIVE 1.1D	101		None	62	None	Forbidden	Forbidden	B	
Articles explosive, n.o.s.	1.1E	UN0464	II	EXPLOSIVE 1.1E	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.1F	UN0465	II	EXPLOSIVE 1.1F	101		None	62	None	Forbidden	Forbidden	E	
Articles, explosive, n.o.s.	1.2C	UN0466	II	EXPLOSIVE 1.2C	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.2D	UN0467	II	EXPLOSIVE 1.2D	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.2E	UN0468	II	EXPLOSIVE 1.2E	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive n.o.s.	1.2F	UN0469	II	EXPLOSIVE 1.2F	101		None	62	None	Forbidden	Forbidden	E	
Articles, explosive, n.o.s.	1.3C	UN0470	II	EXPLOSIVE 1.3C	101		None	62	None	Forbidden	Forbidden	B	
Articles, explosive, n.o.s.	1.4E	UN0471	II	EXPLOSIVE 1.4E	101		None	62	None	Forbidden	75 kg	A	24E
Articles, explosive, n.o.s.	1.4F	UN0472	II	EXPLOSIVE 1.4F	101		None	62	None	Forbidden	Forbidden	E	
Articles, pressurized pneumatic *or* Hydraulic *containing non-flammable gas*	2.2	UN3164		NONFLAMMABLE GAS			306	302, 304	None	No limit	No limit	A	
Articles, pyrophoric	1.2L	UN0380	II	EXPLOSIVE 1.2L			None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
Articles pyrotechnic *for technical purposes*	1.1G	UN0428	II	EXPLOSIVE 1.1G			None	62	None	Forbidden	Forbidden	B	
Articles, pyrotechnic *for technical purposes*	1.2G	UN0429	II	EXPLOSIVE 1.2G			None	62	None	Forbidden	Forbidden	B	
Articles, pyrotechnic *for technical purposes*	1.3G	UN0430	II	EXPLOSIVE 1.3G			None	62	None	Forbidden	Forbidden	B	
Articles, pyrotechnic *for technical purposes*	1.4G	UN0431	II	EXPLOSIVE 1.4G			None	62	None	Forbidden	75 kg	A	24E
Articles, pyrotechnic *for technical purposes*	1.4S	UN0432	II	EXPLOSIVE 1.4S			None	62	None	25 kg	100 kg	A	
D Asbestos	9	NA2212	III	CLASS 9			155	216	240	200 kg	200 kg	A	34, 40
Ascarodole (organic peroxide)	Forbidden												
D Asphalt, *at or above its flashpoint*	3	NA1999	III	FLAMMABLE LIQUID			150	203	247	Forbidden	Forbidden	D	
D Asphalt, cut back, *see* Tars, liquid, *etc.*													
Automobile, motorcycle, tractor, or other self-propelled vehicle, engine, or other mechanical apparatus see Vehicles, self-propelled													
Azaurolic acid (salt of) (dry)	Forbidden												
Azido guanidine picrate (dry)	Forbidden												
5-Azido-1-hydroxy tetrazole	Forbidden												
Azido hydroxy tetrazole (mercury and silver salts)	Forbidden												
3-Azido-1,2-Propylene glycol dinitrate	Forbidden												
Azidodithiocarbonic acid	Forbidden												
Azidoethyl nitrate	Forbidden												
1-Azindinyl phosphine oxide-(tris), see Tris-(1-azindinyl) phosphine oxide, solution													
Azodicarbonamide	4.1	UN3242	II	FLAMMABLE SOLID			151	212	240	Forbidden	Forbidden	D	12, 61, 74
Azotetrazole (dry)	Forbidden												
Barium	4.3	UN1400	II	DANGEROUS WHEN WET	A19		None	212	241	15 kg	50 kg	E	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations: Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations: Passenger aircraft/rail (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements: Vessel stowage (10A)	Other stowage provisions (10B)
	Barium alloys, pyrophoric	4.2	UN1854	I	SPONTANEOUSLY COMBUSTIBLE		None	181	None	Forbidden	Forbidden	D	
	Barium azide, dry or wetted with less than 50 percent water by mass	1.1A	UN0224	II	EXPLOSIVE 1.1A, POISON	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Barium azide, wetted with not less than 50 percent water, by mass	4.1	UN1571	II	FLAMMABLE SOLID, POISON	A2	None	169	None	Forbidden	0.5 kg	D	28
	Barium bromate	5.1	UN2719	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	56, 58, 106
	Barium chlorate	5.1	UN1445	II	OXIDIZER, POISON	A9, N34, T8	None	212	242	5 kg	25 kg	A	56, 58, 106
	Barium compounds, n.o.s.	6.1	UN1564	II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD		153	219	240	100 kg	200 kg	A	
	Barium cyanide	6.1	UN1565	I	POISON	N74, N75	None	211	242	5 kg	50 kg	A	25, 40
	Barium hypochlorite *with more than 22 percent available chlorine*	5.1	UN2741	II	OXIDIZER, POISON	A7, A9, N34	152	212	None	5 kg	25 kg	B	56, 58, 106
	Barium nitrate	5.1	UN1446	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	
	Barium oxide	6.1	UN1884	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Barium perchlorate	5.1	UN1447	II	OXIDIZER, POISON	T8	None	212	242	5 kg	25 kg	A	56, 58, 106
	Barium permanganate	5.1	UN1448	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	D	56, 58, 69, 106, 107
	Barium peroxide	5.1	UN1449	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	13, 75, 106
	Barium selenate, see Selenates or Selenites												
	Barium selenite, see Selenates or Selenites												
D	Barium styphnate	1.1A	NA0473	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Batches, containing sodium	4.3	UN2956	II	DANGEROUS WHEN WET		138	189	189	Forbidden	No limit	A	
	Batteries, dry containing potassium hydroxide solid, *electric storage*	8	UN3028	III	CORROSIVE		None	213	None	15 kg gross	230 kg gross	A	
	Batteries, wet, filled with acid, *electric storage*	8	UN2794	III	CORROSIVE		154	159	None	25 kg gross	No limit	A	
	Batteries, wet, filled with alkali, *electric storage*	8	UN2795	III	CORROSIVE		154	159	None	25 kg gross	No limit	A	
	Batteries, wet, non-spillable, *electric storage*	8	UN2800	III	CORROSIVE		154	159	None	No limit	No limit	A	
	Battery, dry, not subject to the requirements of this subchapter												
	Battery fluid, alkali	8	UN2797	II	CORROSIVE	B2, N10, T8	154	202	242	1 L	30 L	A	E, 40
	Battery, lithium type, see Lithium batteries etc.												
	Battery-powered vehicle or Battery-powered equipment *wet battery*	9	UN3171		CLASS 9		333	334	None	No limit	No limit	A	
	Battery, wet, filled with acid or alkali with automobile (or named self-propelled vehicle or mechanical equipment containing internal combustion engine) see Vehicles, self-propelled etc.												
	Battery, wet, with wheelchair, see Wheelchair, electric												
	Benzaldehyde	9	UN1990	III	CLASS 9		155	203	241	100 L	220 L	A	
	Benzene	3	UN1114	II	FLAMMABLE LIQUID	B9	150	202	242	1 L	60 L	B	40
	Benzene diazonium chloride (dry)	Forbidden											
	Benzene diazonium nitrate (dry)	Forbidden											
	Benzene phosphorus dichloride, see Phenyl phosphorus dichloride												
	Benzene phosphorus thiodichloride, see Phenyl phosphorus thiodichloride												
	Benzene sulfonyl chloride	8	UN2225	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	40
	Benzene triozonide	Forbidden											
	Benzenethiol, see Phenyl mercaptan												
	Benzidine	6.1	UN1885	III	POISON		None	212	242	25 kg	100 kg	A	
	Benzoic derivative pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2770	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	E	
				II	FLAMMABLE LIQUID, POISON		None	202	242	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	240	60 L	220 L	B	40
	Benzoic derivative pesticides, liquid, toxic	6.1	UN3004	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Benzoic derivative pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN3003	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40

			II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	T14	153	203	242	60 L	220 L	A	40
Benzoic derivative pesticides, solid toxic	6.1	UN2769	I	POISON		None	211	242	5 kg	50 kg	A	40
			II	POISON		None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
Benzol see Benzene												
Benzonitrile	6.1	UN2224	II	POISON	T14	None	202	243	5 L	60 L	A	26, 40
Benzoquinone	6.1	UN2587	II	POISON		None	212	242	25 kg	100 kg	A	
Benzotrichloride	8	UN2226	II	CORROSIVE	B2, T15	154	202	242	1 L	30 L	A	40
Benzotrifluoride	3	UN2338	II	FLAMMABLE LIQUID	T2	150	202	242	5 L	60 L	B	40
Benzoxidiazoles (dry)	Forbidden											
Benzoyl azide	Forbidden											
Benzoyl chloride	8	UN1736	II	CORROSIVE	B2, T9, T26	154	202	242	1 L	30 L	C	40
Benzyl bromide	6.1	UN1737	II	POISON, CORROSIVE	A3, A7 N33, N34, T12, T26	None	202	243	1 L	30 L	D	13, 40
Benzyl chloride	6.1	UN1738	II	POISON CORROSIVE	A3, A7 B41, B70, N33, N43, T12 T26	None	202	243	1 L	30 L	D	13, 40
Benzyl chloride *unstabilized*	6.1	UN1738	II	POISON, CORROSIVE	A3 A7, B8, B11, N33, N34, N43, T12, T26	None	202	243	1 L	30 L	D	13 40
Benzyl chloroformate	8	UN1739	I	CORROSIVE	A3, A6 B4, N41 T18, T26	None	201	243	Forbidden	2.5 L	D	40
Benzyl iodide	6.1	UN2653	II	POISON	T8	None	202	243	5 L	60 L	B	12, 40
Benzyldimethylamine	8	UN2619	II	CORROSIVE FLAMMABLE LIQUID	B2, T1	154	202	243	1 L	30 L	A	40, 48
Benzylidene chloride	6.1	UN1886	II	POISON	T8	None	202	243	5 L	60 L	D	40
Beryllium compounds, n.o.s.	6.1	UN1566	II	POISON		None	212	242	25 kg	100 kg	A	
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
Beryllium nitrate	5.1	UN2464	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	
Beryllium, powder	6.1	UN1567	II	POISON, FLAMMABLE SOLID.		None	212	242	15 kg	50 kg	A	
Biphenyl triozonide	Forbidden											
Bipyridilium pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2782	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	E	
			II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
			III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	B	40
Bipyridilium pesticides liquid, toxic	6.1	UN3016	I	POISON	T42	None	201	243	1 L	30 L	B	40
			II	POISON	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
Bipyridilium pesticides, liquid, toxic flammable, *flashpoint not less than 23 degrees C*	6.1	UN3015	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	21, 40
			II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	21, 40
			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	A	21 40
Bipyridilium pesticides, solid, toxic	6.1	UN2781	I	POISON		None	211	242	5 kg	50 kg	A	40
			II	POISON		None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
Bis (Aminopropyl) piperazine, see Corrosive liquid, n.o.s.												
Bisulfate, aqueous solution	8	UN2837	II	CORROSIVE	A7 B2, N34, T8, T26.	154	202	242	1 L	30 L	A	
			III	CORROSIVE	A7 N34, T7, T26	154	203	241	5 L	60 L	A	
Bisulfites, aqueous,solutions, n.o.s.	8	UN2693	III	CORROSIVE	T8	154	203	241	1 L	30 L	A	26, 40
Black powder, compressed *or* Gunpowder, compressed *or* Black powder, in pellets *or* Gunpowder, in pellets	1.1D	UN0028	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Black powder *or* Gunpowder, *granular or as a meal*	1.1D	UN0027	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	10E, 26E
Blasting agent n.o.s., see Explosives, blasting *etc.*												
Blasting cap assemblies, see Detonator assemblies, non-electric, *for blasting*												
Blasting caps electric see Detonators electric *for blasting*												
Blasting caps, non-electric, see Detonators, non-electric, *for blasting*												

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***) Exceptions	(8) Non-bulk packaging	(8) Bulk packaging	(9) Quantity limitations Passenger aircraft or railcar	(9) Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	(10) Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Bleaching powder, see Calcium hypochlorite mixtures, etc.												
I	Blue asbestos *(Crocidolite)* or Brown asbestos *(amosite, mysorite)*	9	UN2212	II	CLASS 9		155	216	240	Forbidden	Forbidden	A	34, 40
	Bombs, photo-flash	1.1F	UN0037	II	EXPLOSIVE 1.1F			62	None	Forbidden	Forbidden	E	
	Bombs, photo-flash	1.1D	UN0038	II	EXPLOSIVE 1.1D			62	None	Forbidden	Forbidden	B	
	Bombs, photo-flash	1.2G	UN0039	II	EXPLOSIVE 1.2G			62	None	Forbidden	Forbidden	B	
	Bombs, photo-flash	1.3G	UN0299	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B	
	Bombs, smoke, non-explosive, *with corrosive liquid, without initiating device*	8	UN2028	II	CORROSIVE		None	160	None	Forbidden	50 kg	E	40
	Bombs, *with bursting charge*	1.1F	UN0033	II	EXPLOSIVE 1.1F			62	None	Forbidden	Forbidden	E	
	Bombs, *with bursting charge*	1.1D	UN0034	II	EXPLOSIVE 1.1D			62	None	Forbidden	Forbidden	B	3E, 7E
	Bombs, *with bursting charge*	1.2D	UN0035	II	EXPLOSIVE 1.2D			62	None	Forbidden	Forbidden	B	3E, 7E
	Bombs, *with bursting charge*	1.2F	UN0291	II	EXPLOSIVE 1.2F			62	None	Forbidden	Forbidden	E	
	Bombs with flammable liquid, *with bursting charge*	1.1J	UN0399	II	EXPLOSIVE 1.1J			62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Bombs with flammable liquid, *with bursting charge*	1.2J	UN0400	II	EXPLOSIVE 1.2J			62	None	Forbidden	Forbidden	E	7E, 16E, 23E
D	Boosters with detonator	1.4B	NA0350	II	EXPLOSIVE 1.4B	118	None	62	None	Forbidden	75 kg	A	24E
	Boosters with detonator	1.1B	UN0225	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	3E, 6E
	Boosters with detonator	1.2B	UN0268	II	EXPLOSIVE 1.2B		None	62	None	Forbidden	Forbidden	E	1E, 7E
	Boosters, *without detonator*	1.1D	UN0042	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Boosters, *without detonator*	1.2D	UN0283	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	
	Borate and chlorate mixtures, see Chlorate and borate mixtures												
	Borneol	4.1	UN1312	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	A	
+	Boron tribromide	8	UN2692	I	CORROSIVE, POISON	2, A3, A7, B9, B14, B32, B74, N34, T38, T43, T45	None	227	244	Forbidden	2.5 L	C	12
	Boron trichloride	2.3	UN1741		POISON GAS, CORROSIVE.	3, 25, B9, B14	None	304	314	Forbidden	Forbidden	D	25, 40
	Boron trifluoride	2.3	UN1008		POISON GAS	2, B9, B14	None	302	314, 315	Forbidden	Forbidden	D	40
	Boron trifluoride acetic acid complex	8	UN1742	II	CORROSIVE	B2, B6, T9, T27	154	202	242	1 L	30 L	A	
	Boron trifluoride diethyl etherate	8	UN2604	I	CORROSIVE, FLAMMABLE LIQUID	A19, T9, T26	None	201	243	0.5 L	2.5 L	D	40
	Boron trifluoride dihydrate	8	UN2851	II	CORROSIVE	T9, T27	154	212	240	15 kg	50 kg	B	12, 40,
	Boron trifluoride dimethyl etherate	4.3	UN2965	I	DANGEROUS WHEN WET, CORROSIVE, FLAMMABLE LIQUID	A19, T12, T26	None	201	243	Forbidden	1 L	Q	21, 28, 40, 49, 100
	Boron trifluoride propionic acid complex	8	UN1743	II	CORROSIVE	B2, T9, T27	154	202	242	1 L	30 L	A	
	Box toe gum, see Nitrocellulose etc.												
	Bromates, inorganic, aqueous solution, n.o.s	5.1	UN3213	II	OXIDIZER	T9	152	202	242	1 L	5 L	B	56, 58, 106
	Bromates, inorganic, n.o.s	5.1	UN1450	II	OXIDIZER		152	213	242	5 kg	25 kg	A	56, 58, 106
	Bromine azide	Forbidden											
+	Bromine *or* Bromine solutions	8	UN1744	I	CORROSIVE, POISON	1, A3, A6, B9, B12, B64, B85, N34, N49, T18, T41	None	226	243	Forbidden	2.5 L	D	12, 40, 66, 74, 89, 90
	Bromine chloride	2.3	UN2901		POISON GAS, CORROSIVE, OXIDIZER.	2, B9, B16, B14	None	304	314, 316	Forbidden	Forbidden	D	40, 89, 90
+	Bromine pentafluoride	5.1	UN1745	I	OXIDIZER, POISON, CORROSIVE	1, B9, B14, B30, B72, T38, T43, T44	None	228	244	Forbidden	Forbidden	D	25, 40, 66, 90
+	Bromine trifluoride	5.1	UN1746	I	OXIDIZER, POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	229	244	Forbidden	Forbidden	D	25, 40, 66, 90
	4-Bromo-1,2-dinitrobenzene	Forbidden											
	4-Bromo-1,2-dinitrobenzene *(unstable at 59 degrees C)*	Forbidden											
	1-Bromo-3-methylbutane	3	UN2341	III	FLAMMABLE LIQUID	B1, T7, T30	150	203	241	60 L	220 L	A	
	1-Bromo-3-nitrobenzene (unstable at 56 degrees C)	Forbidden											
	2-Bromo-2-nitropropane-1,3-diol	6.1	UN3241	III	KEEP AWAY FROM FOOD	46	153	213	240	50 kg	50 kg	C	12, 25, 40
	Bromoacetic acid, *solid*	8	UN1938	II	CORROSIVE	A7, N34, T9	154	212	240	15 kg	50 kg	A	
	Bromoacetic acid, *solution*	8	UN1938	II	CORROSIVE	B2, T9	154	202	242	1 L	30 L	A	40

	Bromoacetone	6.1	UN1569	II	POISON	2	None	193	245	Forbidden	Forbidden	D	40		
	Bromoacetyl bromide	8	UN2513	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	C	40		
	Bromobenzene	3	UN2514	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	Bromobenzyl cyanides, *liquid*	6.1	UN1694	I	POISON	T18	None	201	243	Forbidden	30 L	D	12, 40		
	Bromobenzyl cyanides, *solid*	6.1	UN1694	I	POISON	T18	None	211	242	Forbidden	60 kg	D	12, 40		
	3-Bromobutane	3	UN2339	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B	40		
	Bromochloromethane	6.1	UN1887	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A			
	2-Bromoethyl ethyl ether	3	UN2340	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40		
	Bromoform	6.1	UN2515	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	12, 40		
	Bromomethylpropanes	3	UN2342	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B			
	2-Bromopentane	3	UN2343	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B			
	3-Bromopropene	3	UN2344	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40		
	3-Bromopropyne	3	UN2345	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	D	40		
	Bromosilane	Forbidden													
	Bromotoluene-alpha, see Benzyl bromide														
	Bromotrifluoroethylene	2.1	UN2419		FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	B	40		
	Bromotrifluoromethane, *R13B1*	2.2	UN1009		NONFLAMMABLE GAS		305	304	314, 315	75 kg	150 kg	A			
	Brucine	6.1	UN1570	I	POISON		None	211	242	5 kg	50 kg	A			
	Bursters, *explosive*	1.1D	UN0043	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B			
	Butadienes, inhibited	2.1	UN1010		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40		
	Butane *or* Butane mixtures *see also* Petroleum gases, liquefied	2.1	UN1011		FLAMMABLE GAS	19	306	304	314, 315	Forbidden	150 kg	E	40		
	Butane, butane mixtures and mixtures having similar properties in cartridges each not exceeding 500 grams, see Receptacles, etc.														
	Butanedione	3	UN2346	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B			
	1,2,4-Butanetriol trinitrate	Forbidden													
	Butanols	3	UN1120	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B			
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	tert-Butoxycarbonyl azide	Forbidden													
	Butoxyl	3	UN2708	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	Butyl acetates	3	UN1123	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B			
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	Butyl acid phosphate	8	UN1718	III	CORROSIVE	T7	154	203	241	5 L	60 L	A			
	Butyl glycols, see Butanols														
	Butyl benzenes	3	UN2709	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	n-Butyl bromide	3	UN1126	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	40		
	n-Butyl chloride, see Chlorobutanes														
D	sec-Butyl chloroformate	6.1	NA9742	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	1 L	30 L	A	12, 13, 22, 25, 40, 48, 100		
	n-Butyl chloroformate	6.1	UN2743	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	1 L	30 L	A	12, 13, 21, 25, 40, 100		
	Butyl ethers, see Dibutyl ethers														
	Butyl ethyl ether, see Ethyl butyl ether														
	n-Butyl formate	3	UN1128	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B			
	tert-Butyl hydroperoxide, with more than 90 percent with water	Forbidden													
	tert-Butyl hypochlorite	4.2	UN3255	I	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	211	243	Forbidden	Forbidden	D			
	N-n-Butyl imidazole	6.1	UN2690	II	POISON	T8	None	202	243	5 L	60 L	A			
	Tert-Butyl isocyanide	6.1	UN2484	I	POISON, FLAMMABLE LIQUID	1, A7, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	Forbidden	D	40		
	n-Butyl isocyanate	6.1	UN2485	I	POISON, FLAMMABLE LIQUID.	1, A7, B9, B14, B30 B72, B77, T38, T43, T44	None	226	244	Forbidden	30 L	D	40		
	Butyl mercaptans	3	UN2347	II	FLAMMABLE LIQUID	A3, T8	150	202	242	5 L	60 L	D	26, 95		
	n-Butyl methacrylate	3	UN2227	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	Butyl methyl ether	3	UN2350	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B			
	Butyl nitrites	3	UN2351	I	FLAMMABLE LIQUID	T8	150	201	243	1 L	30 L	E	40		
				II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40		
				III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	40		
	tert-Butyl peroxyacetate, with more than 76 percent in solution	Forbidden													
	n-Butyl peroxydicarbonate with more than 52 percent in solution	Forbidden													
	tert-Butyl peroxyisobutyrate, with more than 77 percent in solution	Forbidden													
	Butyl phosphoric acid, see Butyl acid phosphate														
	5-tert-Butyl-2,4,6-trinitro-m-xylene *or* Musk xylene	4.1	UN2956	III	FLAMMABLE SOLID		None	214	None	Forbidden	Forbidden	D	12		
	Butyl vinyl ether, inhibited	3	UN2352	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40		
	Butyraldehyde	3	UN2348	III	FLAMMABLE LIQUID	B1, T8, T31	150	203	242	60 L	220 L	A			

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or railcar	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	n-Butylamine	3	UN1125	II	FLAMMABLE LIQUID, CORROSIVE.	T8	None	202	242	1 L	5 L	B	40
	N-Butylaniline	6.1	UN2738	II	POISON	T8	None	202	243	5 L	60 L	A	
	tert-Butylcyclohexylchloroformate	6.1	UN2747	III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	A	12, 13, 25
	Butylene *see also* Petroleum gases, liquefied	2.1	UN1012	—	FLAMMABLE GAS	19	None	304	314, 315	Forbidden	150 kg	E	40
	1,2-Butylene oxide, stabilized	3	UN3022	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	49
	Butylpropionate	3	UN1914	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Butyltoluenes	6.1	UN2667	III	KEEP AWAY FROM FOOD.	T2	153	203	241	60 L	220 L	A	
	Butyltrichlorosilane	8	UN1747	II	CORROSIVE, FLAMMABLE LIQUID.	A7, B2, B6, N34, T8, T26	None	202	243	Forbidden	30 L	C	40
	1,4-Butynediol	6.1	UN2716	III	KEEP AWAY FROM FOOD	A1	None	213	240	100 kg	200 kg	A	61, 70
	Butyraldehyde	3	UN1129	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Butyraldoxime	3	UN2840	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Butyric acid	8	UN2820	III	CORROSIVE	T1	154	203	241	5 L	60 L	A	12
	Butyric anhydride	8	UN2739	III	CORROSIVE	T2	154	203	241	5 L	60 L	A	
	Butyronitrile	3	UN2411	II	FLAMMABLE LIQUID, POISON.	T14	None	202	243	1 L	60 L	E	40
	Butyryl chloride	3	UN2353	II	FLAMMABLE LIQUID, CORROSIVE.	T9, T26	None	202	243	1 L	5 L	C	40
	Cacodylic acid	6.1	UN1572	II	POISON		None	212	242	25 kg	100 kg	E	26
	Cadmium compounds	6.1	UN2570	I	POISON		None	211	242	5 kg	50 kg	A	
				II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Caesium hydroxide	8	UN2682	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
	Caesium hydroxide solution	8	UN2681	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Calcium	4.3	UN1401	II	DANGEROUS WHEN WET		None	212	241	15 kg	50 kg	E	
	Calcium arsenate	6.1	UN1573	II	POISON		None	212	242	25 kg	100 kg	A	
	Calcium arsenate and calcium arsenite, mixtures, solid	6.1	UN1574	II	POISON		None	212	242	25 kg	100 kg	A	
D	Calcium arsenite, solid	6.1	NA1574	II	POISON		None	212	242	25 kg	100 kg	A	
	Calcium bisulfite solution, see Bisulfites, inorganic, aqueous solutions, n.o.s.												
	Calcium carbide	4.3	UN1402	I	DANGEROUS WHEN WET.	A1, A8, B55, N34	None	211	242	Forbidden	15 kg	B	
				II	DANGEROUS WHEN WET.	A1, A8, B55, N34	None	212	241	15 kg	50 kg	B	
	Calcium chlorate	5.1	UN1452	II	OXIDIZER	N34	152	212	242	5 kg	25 kg	A	56, 58, 106
	Calcium chlorate aqueous solution	5.1	UN2429	II	OXIDIZER	A2, N41, T8	152	202	242	1 L	5 L	B	56, 58, 106
	Calcium chlorite	5.1	UN1453	II	OXIDIZER	A9, N34	152	212	242	5 kg	25 kg	A	56, 58, 106
	Calcium cyanamide *with more than 0.1 percent of calcium carbide*	4.3	UN1403	III	DANGEROUS WHEN WET.	A1, A19	None	213	241	25 kg	100 kg	A	
	Calcium cyanide	6.1	UN1575	I	POISON	N79, N80	None	211	242	5 kg	50 kg	A	26, 40
	Calcium dithionite *or* Calcium hydrosulfite	4.2	UN1923	II	SPONTANEOUSLY COMBUSTIBLE	A19, A20	None	212	241	15 kg	50 kg	E	13
	Calcium hydride	4.3	UN1404	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	E	
	Calcium hydrosulfite, *see* Calcium dithionite												
	Calcium hypochlorite, dry *or* Calcium hypochlorite mixtures dry *with more than 39 percent available chlorine (8.9 percent available oxygen)*	5.1	UN1748	II	OXIDIZER	A7, A9, N34	152	212	None	5 kg	25 kg	D	48, 56, 58, 69, 106, 118
	Calcium hypochlorite, hydrated *or* Calcium hypochlorite, hydrated mixtures, *with not less than 5.5 percent but not more than 10 percent water*	5.1	UN2880	II	OXIDIZER		152	212	240	5 kg	25 kg	A	50, 56, 58, 69, 106
	Calcium hypochlorite mixtures, dry, *with more than 10 percent but not more than 39 percent available chlorine*	5.1	UN2208	III	OXIDIZER	A1, A29, N34	152	213	240	25 kg	100 kg	A	56, 58, 69, 106

	Calcium manganese silicon	4.3	UN2844	III	DANGEROUS WHEN WET	A1, A19	None	213	241	25 kg	100 kg	A	85, 103
	Calcium nitrate	5.1	UN1454	III	OXIDIZER	34	152	213	240	25 kg	100 kg	A	
A	Calcium oxide	8	UN1910	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Calcium perchlorate	5.1	UN1455	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106
	Calcium permanganate	5.1	UN1456	II	OXIDIZER		152	212	242	5 kg	25 kg	D	56, 58, 59, 106, 107
	Calcium peroxide	5.1	UN1457	II	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Calcium phosphide	4.3	UN1360	I	DANGEROUS WHEN WET, POISON.	A8, A19, N40	None	211	242	Forbidden	15 kg	E	40, 85
	Calcium, pyrophoric *or* Calcium alloys, pyrophoric	4.2	UN1855	I	SPONTANEOUSLY COMBUSTIBLE.		None	187	None	Forbidden	Forbidden	D	
	Calcium resinate	4.1	UN1313	III	FLAMMABLE SOLID	A1, A19	None	213	240	25 kg	100 kg	A	
	Calcium resinate, fused	4.1	UN1314	III	FLAMMABLE SOLID	A1, A19	None	213	240	25 kg	100 kg	A	
	Calcium selenate, *see* Selenates *or* Selenites												
	Calcium silicide	4.3	UN1405	II	DANGEROUS WHEN WET	A19	None	212	241	15 kg	50 kg	B	85, 103
				III	DANGEROUS WHEN WET.	A1, A19	None	213	241	25 kg	100 kg	B	85, 103
	Camphor oil	3	UN1130	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Camphor, *synthetic*	4.1	UN2717	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	A	
	Cannon primers, see Primers, tubular												
	Caprolc acid	8	UN2829	III	CORROSIVE	T1	154	203	241	5 L	60 L	A	
	Caps, blasting, see Detonators, *etc.*												
	Carbamate pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2758	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	B	40
	Carbamate pesticides, liquid, toxic	6.1	UN2992	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Carbamate pesticides, liquid, toxic, flammable *flash point not less than 23 degrees C*	6.1	UN2991	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	A	40
	Carbamate pesticides, solid, toxic	6.1	UN2757	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Carbolic acid, see Phenol, solid *or* Phenol, molten												
	Carbolic acid solutions, see Phenol solutions												
I	Carbon, activated	4.2	UN1362	III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	0.5 kg	0.5 kg	A	12
I	Carbon, *animal or vegetable origin*	4.2	UN1361	II	SPONTANEOUSLY COMBUSTIBLE.		None	212	242	Forbidden	Forbidden	A	12
				III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	Forbidden	Forbidden	A	12
	Carbon bisulfide see Carbon disulfide												
	Carbon dioxide	2.2	UN1013		NONFLAMMABLE GAS		306	302, 304	302, 314, 315	75 kg	150 kg	A	
	Carbon dioxide and nitrous oxide mixtures	2.2	UN1015		NONFLAMMABLE GAS		306	None	314, 315	75 kg	150 kg	A	
	Carbon dioxide and oxygen mixtures	2.2	UN1014		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Carbon dioxide, refrigerated liquid	2.2	UN2187		NONFLAMMABLE GAS	643	306	304	314, 315	50 kg	500 kg	B	
AW	Carbon dioxide solid *or* Dry ice	9	UN1845	III	None	812	217	217	240	200 kg	200 kg	C	46
	Carbon disulfide	3	UN1131	I	FLAMMABLE LIQUID, POISON	816, T18, T26, T29.	None	201	243	Forbidden	Forbidden	D	18, 40, 115
	Carbon monoxide	2.3	UN1016		POISON GAS, FLAMMABLE GAS.	4	None	302	314, 315	Forbidden	25 kg	D	40
	Carbon monoxide and hydrogen mixture	2.3	UN2600		POISON GAS, FLAMMABLE GAS.	6	None	302	302	Forbidden	Forbidden	D	40
D	Carbon monoxide, refrigerated liquid *(cryogenic liquid)*	2.3	NA9202		POISON GAS, FLAMMABLE GAS.	4	None	316	316	Forbidden	Forbidden	D	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(6) Packaging authorizations (§173.***) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or railcar	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Carbon tetrabromide	6.1	UN2516	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	25
	Carbon tetrachloride	6.1	UN1846	II	POISON	N36, T8	None	202	243	5 L	60 L	A	40
	Carbonyl chloride, see Phosgene												
	Carbonyl fluoride	2.3	UN2417		POISON GAS, CORROSIVE	2	None	302	None	Forbidden	Forbidden	D	40
	Carbonyl sulfide	2.3	UN2204		POISON GAS, FLAMMABLE GAS	3, 25, B14	None	304	314, 315	Forbidden	25 kg	D	40
	Cartridge cases, empty primed, see Cases, cartridge, empty, with primer												
	Cartridges, actuating, for aircraft ejector seat catapult, fire extinguisher, canopy removal or apparatus, see Cartridges, power device												
	Cartridges, explosive, see Charges, demolition												
	Cartridges, flash	1.1G	UN0049	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Cartridges, flash	1.3G	UN0050	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Cartridges for weapons, blank	1.1C	UN0326	II	EXPLOSIVE 1.1C		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, blank	1.2C	UN0413	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.4S	UN0014	II	None	112	None	62	None	25 kg	100 kg	A	
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.3C	UN0327	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.4C	UN0338	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	24E
	Cartridges for weapons, inert projectile	1.2C	UN0328	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	II	None	112	None	62	None	25 kg	100 kg	A	
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4C	UN0339	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	B	
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.3C	UN0417	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, *with bursting charge*	1.1F	UN0005	II	EXPLOSIVE 1.1F		None	62	None	Forbidden	Forbidden	E	
	Cartridges for weapons, *with bursting charge*	1.1E	UN0006	II	EXPLOSIVE 1.1E		None	62	None	Forbidden	Forbidden	E	
	Cartridges for weapons, *with bursting charge*	1.2F	UN0007	II	EXPLOSIVE 1.2F		None	62	None	Forbidden	Forbidden	E	
	Cartridges for weapons, *with bursting charge*	1.2E	UN0321	II	EXPLOSIVE 1.2E		None	62	None	Forbidden	Forbidden	B	
	Cartridges for weapons, *with bursting charge*	1.4F	UN0348	II	EXPLOSIVE 1.4F		None	62	None	Forbidden	Forbidden	E	
	Cartridges for weapons, *with bursting charge*	1.4E	UN0412	II	EXPLOSIVE 1.4E		None	62	None	Forbidden	75 kg	A	24E
	Cartridges, oil well	1.3C	UN0277	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Cartridges, oil well	1.4C	UN0278	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	24E
	Cartridges, power device	1.3C	UN0275	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	75 kg	B	
	Cartridges, power device	1.4C	UN0276	II	EXPLOSIVE 1.4C	110	None	62	None	Forbidden	75 kg	A	24E
	Cartridges, power device	1.4S	UN0323	II	EXPLOSIVE 1.4S	110, 112	None	62	None	25 kg	100 kg	A	
	Cartridges, power device	1.2C	UN0381	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B	
	Cartridges, safety, blank, *see* Cartridges for weapons, blank *(UN 0014)*												
	Cartridges, safety, *see* Cartridges for weapons, *other than blank or* Cartridges, power device *(UN 0323)*												
	Cartridges, signal	1.3G	UN0054	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Cartridges, signal	1.4G	UN0312	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Cartridges, signal	1.4S	UN0405	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
D	Cartridges, small arms	ORM-D			None	112	230	None	None	30 kg gross	30 kg gross	A	
	Cartridges, sporting, see Cartridges for weapons, *other than blank*												
	Cartridges, starter, jet engine, see Cartridges, power device												
I	Cases, cartridge, empty with primer	1.4S	UN0055	II	EXPLOSIVE 1.4S	50	None	62	None	25 kg	100 kg	A	
I	Cases, cartridge, empty with primer	1.4C	UN0379	II	EXPLOSIVE 1.4C	50	None	62	None	Forbidden	75 kg	A	24E
	Cases, combustible, empty, without primer	1.4C	UN0446	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	24E
	Cases, combustible, empty, without primer	1.3C	UN0447	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Casinghead gasoline see Natural gasoline												
AW	Castor beans or Castor meal or Castor pomace or Castor flake	9	UN2969	II	None		155	204	240	No limit	No limit	E	34, 40
	Caustic alkali liquids, n.o.s.	8	UN1719	II	CORROSIVE	B2, T14	154	202	242	1 L	30 L	A	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Caustic potash, see Potassium hydroxide *etc.*												
	Caustic soda, (etc.) see Sodium hydroxide *etc.*												
	Cells, containing sodium	4.3	UN3292	II	DANGEROUS WHEN WET		189	189	189	25 kg	No limit	A	
	Celluloid, *in block, rods, rolls, sheets, tubes, etc., except scrap*	4.1	UN2000	III	FLAMMABLE SOLID		None	213	240	25 kg	100 kg	A	
	Celluloid, scrap	4.2	UN2002	III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	Forbidden	Forbidden	D	
	Cement, see Adhesives *containing flammable liquid*												
	Cerium, *slabs, ingots, or rods*	4.1	UN1333	II	FLAMMABLE SOLID	N34	None	212	240	15 kg	50 kg	A	74, 91
	Cerium, *turnings or gritty powder*	4.3	UN3078	II	DANGEROUS WHEN WET	A1	None	212	242	15 kg	50 kg	E	

	Cesium *or* Caesium	4.3	UN1407	I	DANGEROUS WHEN WET	A19, N34, N40	None	211	242	Forbidden	15 kg	D		
	Cesium nitrate *or* Caesium nitrate	5.1	UN1451	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A		
D	Charcoal *briquettes, shell, screenings, wood, etc.*	4.2	NA1361	III	SPONTANEOUSLY COMBUSTIBLE.		151	213	240	25 kg	100 kg	A		12
	Charges, bursting, plastics bonded	1.1D	UN0457	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		
	Charges, bursting, plastics bonded	1.2D	UN0458	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B		
	Charges, bursting, plastics bonded	1.4D	UN0459	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A		24E
	Charges, bursting, plastics bonded	1.4S	UN0460	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A		
	Charges, demolition	1.1D	UN0048	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		
	Charges, depth	1.1D	UN0056	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		3E, 7E
	Charges, expelling, explosive, for fire extinguishers, see Cartridges, power device													
	Charges, explosive, commercial *without detonator*	1.1D	UN0442	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		
	Charges, explosive, commercial *without detonator*	1.2D	UN0443	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B		
	Charges, explosive, commercial *without detonator*	1.4D	UN0444	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A		24E
	Charges, explosive, commercial *without detonator*	1.4S	UN0445	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A		
	Charges, propelling	1.1C	UN0271	II	EXPLOSIVE 1.1C		None	62	None	Forbidden	Forbidden	B		
	Charges, propelling	1.3C	UN0272	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B		
	Charges, propelling	1.2C	UN0415	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B		
	Charges, propelling	1.4C	UN0491		EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A		1E 5E
	Charges, propelling, for cannon	1.3C	UN0242	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B		1E, 5E
	Charges, propelling, for cannon	1.1C	UN0279	II	EXPLOSIVE 1.1C		None	62	None	Forbidden	Forbidden	B		1E, 5E
	Charges, propelling, for cannon	1.2C	UN0414	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B		1E, 5E
	Charges, shaped, commercial, *without detonator*	1.1D	UN0059	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		
	Charges, shaped, commercial *without detonator*	1.2D	UN0439	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B		
	Charges, shaped, commercial *without detonator*	1.4D	UN0440	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A		24E
	Charges, shaped, commercial *without detonator*	1.4S	UN0441	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A		
	Charges, shaped, flexible, linear	1.4D	UN0237	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A		24E
	Charges, shaped, flexible, linear	1.1D	UN0288	II	EXPLOSIVE 1.1D	101	None	62	None	Forbidden	Forbidden	B		
	Charges, supplementary explosive	1.1D	UN0060	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		1E 5E
D	Chemical kit	8	NA1760	II	CORROSIVE		154	161	None	1 L	30 L	B		40
	Chemical kits *(must be classified and labelled according to the hazard class of the constituent(s) and must meet the requirements of special provision 15 in 172.102(c)(1))*													
	Chloral, anhydrous, inhibited	6.1	UN2075	II	POISON	T14	None	202	243	5 L	60 L	D		40
	Chlorate and borate mixtures	5.1	UN1458	II	OXIDIZER	A9, N34	152	212	240	5 kg	25 kg	A		56, 58, 106
				III	OXIDIZER	A9, N34	152	213	240	25 kg	100 kg	A		56, 58, 106
	Chlorate and magnesium chloride mixtures	5.1	UN1459	II	OXIDIZER	A9, N34, T8	152	212	240	5 kg	25 kg	A		56, 58, 106
				III	OXIDIZER	A9, N34, T8	152	213	240	25 kg	100 kg	A		56, 58, 106
	Chlorate of potash, see Potassium chlorate													
	Chlorate of soda, see Sodium chlorate													
	Chlorates, inorganic, aqueous solution, n.o.s.	5.1	UN3210	II	OXIDIZER	T8	152	202	242	1 L	5 L	B		56, 58, 106
	Chlorates, inorganic, n.o.s.	5.1	UN1461	II	OXIDIZER	A9, N34	152	212	242	5 kg	25 kg	A		56, 58, 106
	Chloric acid aqueous solution, *with not more than 10 percent chloric acid*	5.1	UN2626	II	OXIDIZER	T25	None	229	None	Forbidden	Forbidden	D		56, 58, 106
	Chloride of phosphorus, see Phosphorus trichloride													
	Chloride of sulfur, see Sulfur chloride													
	Chlorinated lime, see Calcium hypochlorite mixtures, *etc.*													
	Chlorine	2.3	UN1017		POISON GAS, CORROSIVE, OXIDIZER.	2, B9, B14	None	304	314, 315	Forbidden	Forbidden	D		40, 51, 55, 62, 68, 89, 90
	Chlorine azide	Forbidden												
D	Chlorine dioxide, hydrate, frozen	5.1	NA9191	II	OXIDIZER, POISON		None	229	None	Forbidden	Forbidden	E		
	Chlorine dioxide (not hydrate)	Forbidden												
	Chlorine pentafluoride	2.3	UN2548		POISON GAS, OXIDIZER, CORROSIVE	1, B7, B9, B14	None	304	314	Forbidden	Forbidden	D		40, 89, 90
	Chlorine trifluoride	2.3	UN1749		POISON GAS, OXIDIZER, CORROSIVE.	2, 25, B7, B9, B14	None	304	314	Forbidden	Forbidden	D		40, 89, 90
	Chlorite solution *with more than 5 percent but less than 16 percent available chlorine*	8	UN1908	III	CORROSIVE	A3, A6, A7, B2, N34, T8	154	203	241	5 L	60 L	B		26
	Chlorite solution *with not less than 16 percent available chlorine*	8	UN1908	II	CORROSIVE	A3, A6, A7, B2, N34, T8.	154	202	242	1 L	30 L	B		26
	Chlorites, inorganic, n.o.s.	5.1	UN1462	II	OXIDIZER	A7, N34	152	212	242	5 kg	25 kg	A		56, 58, 106
	1-Chloro-3-bromopropane	6.1	UN2688	III	KEEP AWAY FROM FOOD.	T2	153	203	241	60 L	220 L	A		
	1-Chloro-1,1-difluoroethane, see Chlorodifluoroethanes													
	1-Chloro-1,1-difluoroethanes, *R142b*	2.1	UN2517		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B		40
	3-Chloro-4-methylphenylisocyanate	6.1	UN2236	II	POISON		None	202	243	5 L	60 L	B		40
	1-Chloro-1,2,2,2,-tetrafluoroethane, *R124*	2.2	UN1021		NONFLAMMABLE GAS		306	304	314 315	75 kg	150 kg	A		
	4-Chloro-o-toluidine hydrochloride	6.1	UN1579	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		
	1-Chloro-2,2,2-trifluoroethane, *R133a*	2.2	UN1983		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§ 173.xxx) Exceptions	New bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or railcar	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Chloroacetic acid, molten	6.1	UN3250	II	POISON, CORROSIVE	T8	None	202	243	Forbidden	Forbidden	D	40
	Chloroacetic acid, solid	6.1	UN1751	II	POISON, CORROSIVE	A3, A7, N34	None	212	242	15 kg	50 kg	A	40
	Chloroacetic acid, solution	6.1	UN1750	II	POISON, CORROSIVE	A7, N34, T8, T27	None	202	243	1 L	30 L	A	40
+	Chloroacetone, stabilized	6.1	UN1695	II	POISON	2, B9, B14, B32, B74, N19, N32, N34, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Chloroacetone (unstabilized)	Forbidden											
+	Chloroacetonitrile	6.1	UN2668	II	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	60 L	A	12, 28, 40
	Chloroacetophenone (CN), liquid	6.1	UN1697	II	POISON	A3, N12, N32, N33	None	202	243	Forbidden	60 L	D	12, 40
	Chloroacetophenone (CN), solid	6.1	UN1697	II	POISON	A3, N12, N32, N33, N34	None	212	None	Forbidden	100 kg	D	12, 40
	Chloroacetyl chloride	6.1	UN1752	I	POISON, CORROSIVE	2, A3, A6, A7, B3, B6, B9, B14, B32, B74, B77, N34, N43, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Chloroanilines, liquid	6.1	UN2019	II	POISON	T14	None	202	243	5 L	60 L	A	
	Chloroanilines, solid	6.1	UN2018	II	POISON	T14, T33	None	212	242	25 kg	100 kg	A	
	Chloroanisidines	6.1	UN2233	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Chlorobenzene	3	UN1134	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Chlorobenzol, see Chlorobenzene												
	Chlorobenzotrifluorides	3	UN2234	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Chlorobenzylchlorides	6.1	UN2235	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A	
	Chlorobutanes	3	UN1127	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Chlorocresols, liquid	6.1	UN2669	II	POISON	T8	None	202	243	5 L	60 L	A	12
	Chlorocresols, solid	6.1	UN2669	II	POISON		None	212	242	25 kg	100 kg	A	12
	Chlorodifluorobromomethane, R1281	2.2	UN1974		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Chlorodifluoromethane and chloropentafluoroethane mixture with fixed boiling point, with approximately 49 percent chlorodifluoromethane, R502	2.2	UN1973		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Chlorodifluoromethane, R22	2.2	UN1018		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Chlorodinitrobenzenes	6.1	UN1577	II	POISON	T14	None	212	242	25 kg	100 kg	A	91
	2-Chloroethanal	6.1	UN2232	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Chloroform	6.1	UN1888	III	KEEP AWAY FROM FOOD	N36, T14	153	203	241	5 L	60 L	A	40
	Chloroformates, toxic, corrosive, flammable, n.o.s.	6.1	UN2742	II	POISON, CORROSIVE, FLAMMABLE LIQUID	5	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
	Chloroformates, toxic, corrosive, n.o.s.	6.1	UN3277	II	POISON, CORROSIVE	T12, T28	None	202	243	1 L	30 L	A	12, 13, 25, 40
	Chloromethyl ethyl ether	3	UN2354	II	FLAMMABLE LIQUID, POISON	T8	None	202	243	1 L	60 L	B	40
	Chloromethylchloroformate	6.1	UN2745	II	POISON, CORROSIVE	T18	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
	Chloronitroanilines	6.1	UN2237	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
*	Chloronitrobenzene, ortho, liquid	6.1	UN1578	II	POISON	T14	None	202	243	5 L	60 L	A	
+	Chloronitrobenzenes, meta or para, solid	6.1	UN1579	II	POISON	T14	None	212	242	25 kg	100 kg	A	
	Chloronitrotoluenes, liquid	6.1	UN2433	III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	A	
	Chloronitrotoluenes, solid	6.1	UN2433	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Chloropentafluoroethane, R115	2.2	UN1020		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	

	Chlorophenolates, liquid *or* Phenolates, liquid	8	UN2904	III	CORROSIVE		154	203	241	5 L	60 L	A		
	Chlorophenolates, solid *or* Phenolates solid	8	UN2905	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
	Chlorophenols, liquid	6.1	UN2021	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A		
	Chlorophenols, solid	6.1	UN2020	III	KEEP AWAY FROM FOOD	T7	153	213	240	100 kg	200 kg	A		
	Chlorophenyltrichlorosilane	8	UN1753	II	CORROSIVE	A7, B2 B6, N34, T8, T26	None	202	242	Forbidden	30 L	C	40	
+	Chloropicrin	6.1	UN1580	I	POISON	2, B7, B9 B14, B32, B46, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40	
	Chloropicrin and methyl bromide mixtures	2.3	UN1581		POISON GAS	2, B9, B14	None	193	314, 315	Forbidden	Forbidden	D	25, 40	
	Chloropicrin and methyl chloride mixtures	2.3	UN1582		POISON GAS	2	None	193	245	Forbidden	Forbidden	D	25, 40	
	Chloropicrin mixture flammable (pressure not exceeding 14.7 psia at 115 degrees F flash point below 100 degrees F) see Poisonous liquids, flammable, n o s.													
	Chloropicrin mixtures, n o s	6.1	UN1583	I	POISON	5	None	201	243	Forbidden	Forbidden	C	40	
				II	POISON		None	202	243	Forbidden	Forbidden	C	40	
				III	KEEP AWAY FROM FOOD		153	203	241	Forbidden	Forbidden	C	40	
D	Chloropivaloyl chloride	6.1	NA9263	I	POISON, CORROSIVE	2 B9 B14, B32 B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	40	
	Chloroplatinic acid solid	8	UN2507	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
	Chloroprene, inhibited	3	UN1991	I	FLAMMABLE LIQUID, POISON	B57, T15	None	201	243	Forbidden	30 L	D	40	
	Chloroprene uninhibited	Forbidden												
	2-Chloropropane	3	UN2356	I	FLAMMABLE LIQUID	N36, T14	150	201	243	1 L	30 L	E		
	3-Chloropropanol-1	6.1	UN2849	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A		
	2-Chloropropene	3	UN2456	I	FLAMMABLE LIQUID	A3, N36, T20	150	201	243	1 L	30 L	E		
	2-Chloropropionic acid	8	UN2511	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	8	
	2-Chloropyridine	6.1	UN2822	II	POISON	T14	None	202	243	5 L	60 L	A	40	
	Chlorosilanes, corrosive, flammable, n o s.	8	UN2986	II	CORROSIVE FLAMMABLE LIQUID		None	202	243	1 L	30 L	C	40	
	Chlorosilanes, corrosive, n o s.	8	UN2987	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	40	
	Chlorosilanes, flammable, corrosive, n o s	3	UN2985	II	FLAMMABLE LIQUID, CORROSIVE	T18, T26	None	201	243	1 L	5 L	B	40	
	Chlorosilanes, water-reactive, flammable, corrosive, n o s	4.3	UN2988	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID, CORROSIVE.	A2	None	201	244	Forbidden	1 L	D	21, 28, 40 49, 100	
+	Chlorosulfonic acid *(with or without sulfur trioxide)*	8	UN1754	I	CORROSIVE, POISON	2, A3, A6 A10, B9 B10, B14 B32, B74, T38 T43 T45	None	227	244	Forbidden	Forbidden	C	40	
	Chlorotoluenes	3	UN2238	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
	Chlorotoluidines *liquid*	6.1	UN2239	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A		
	Chlorotoluidines *solid*	6.1	UN2239	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		
	Chlorotrifluoromethane and trifluoromethane azeotropic mixture *with approximately 60 percent chlorotrifluoromethane, R503*	2.2	UN2599		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		
	Chlorotrifluoromethane, *R13*	2.2	UN1022		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		
D	Chromic acid, solid	5.1	NA1463	II	OXIDIZER, CORROSIVE		None	212	242	5 kg	25 kg	A		
	Chromic acid solution	8	UN1755	II	CORROSIVE	B2, T9, T27	154	202	242	1 L	30 L	C	40	
				III	CORROSIVE	T8, T26	154	203	241	5 L	60 L	C	40	
	Chromic anhydride, see Chromium trioxide, anhydrous													
	Chromic fluoride, solid	8	UN1756	II	CORROSIVE		154	212	240	15 kg	50 kg	A	26	
	Chromic fluoride, solution	8	UN1757	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A		
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A		
	Chromium nitrate	5.1	UN2720	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A		
	Chromium oxychloride	8	UN1758	I	CORROSIVE	A3, A6, A7, B10, N34, T12, T26.	None	201	243	0.5 L	2.5 L	C	40, 66, 74, 89, 90	
	Chromium trioxide, anhydrous	5.1	UN1463	II	OXIDIZER, CORROSIVE		None	212	242	5 kg	25 kg	A		
	Chromosulfuric acid	8	UN2240	I	CORROSIVE	A3, A6 A7, B4, B6, N34, T12, T27	None	201	243	0.5 L	2.5 L	B	40, 66, 74, 89, 90	
	Chromyl chloride see Chromium oxychloride													
	Cigar and cigarette lighters, charged with fuel see Lighters for cigars, cigarettes, etc													
	Coal briquettes, hot	Forbidden												
	Coal gas	2.3	UN1023		POISON GAS FLAMMABLE GAS	3	None	302	314, 315	Forbidden	25 kg	D	40	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(6) Packaging authorizations (§173.—)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or railcar	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Coal tar distillates, flammable	3	UN1136	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Coal tar, crude, corrosive, liquid, n.o.s. see Dyes, liquid or solid, n.o.s. *or* Dye intermediates, liquid or solid, n.o.s., *corrosive*												
	Coating solution	3	UN1139	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Cobalt naphthenates, powder	4.1	UN2001	III	FLAMMABLE SOLID	A19	151	213	240	25 kg	100 kg	A	
	Cobalt resinate, precipitated	4.1	UN1318	III	FLAMMABLE SOLID	A1, B13	151	213	240	25 kg	100 kg	A	
	Coke, hot	Forbidden											
	Collodion, *see* Nitrocellulose, *etc.*												
D	Combustible liquid, n.o.s.	Combustible liquid	NA1993	III	None	T1	150	203	241	50 L	220 L	A	
	Components, explosive train, n.o.s.	1.2B	UN0382	II	EXPLOSIVE 1.2B	101	None	62	None	Forbidden	Forbidden	E	1E, 6E
	Components, explosive train, n.o.s.	1.4B	UN0383	II	EXPLOSIVE 1.4B	101	None	62	None	Forbidden	75 kg	A	24E
	Components, explosive train, n.o.s.	1.4S	UN0384	II	EXPLOSIVE 1.4S	101	None	62	None	25 kg	100 kg	A	
	Components, explosive train, n.o.s.	1.1B	UN0461	II	EXPLOSIVE 1.1B	101	None	62	None	Forbidden	Forbidden	E	1E, 6E
	Composition B, *see* Hexolite, *etc.*												
D	Compounds, cleaning liquid	8	NA1760	I	CORROSIVE	A7, B10, T42	None	201	243	0.5 L	2.5 L	B	40
				II	CORROSIVE	B2, N37, T14	154	202	242	1 L	30 L	B	40
				III	CORROSIVE	N37, T7	154	203	241	5 L	60 L	A	40
D	Compounds, cleaning liquid	3	NA1993	I	FLAMMABLE LIQUID	T42	150	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	203	242	60 L	220 L	A	
D	Compounds, tree killing, liquid *or* Compounds, weed killing, liquid	8	NA1760	I	CORROSIVE	A7, B10, T42	None	201	243	0.5 L	2.5 L	B	40
				II	CORROSIVE	B2, N37, T14	154	202	242	1 L	30 L	B	40
				III	CORROSIVE	N37, T7	154	203	241	5 L	60 L	A	40
D	Compounds, tree killing, liquid *or* Compounds, weed killing, liquid	3	NA1993	I	FLAMMABLE LIQUID	T42	150	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	203	242	60 L	220 L	A	
D	Compounds, tree killing, liquid *or* Compounds, weed killing, liquid	6.1	NA2810	II	POISON		153	202	242	1 L	30 L	B	40
				II	POISON		153	202	242	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	A	40
	Compressed gas, oxidizing, n.o.s.	2.2	UN3156		NONFLAMMABLE GAS, OXIDIZER		306	302	314, 315	75 kg	150 kg	D	
	Compressed gases, flammable, n.o.s.	2.1	UN1954		FLAMMABLE GAS		306	302	314, 315	Forbidden	150 kg	D	40
	Compressed gases, n.o.s.	2.2	UN1956		NONFLAMMABLE GAS		306, 307	302, 305	314, 315	75 kg	150 kg	A	
	Compressed gases, toxic, flammable, n.o.s. *Inhalation hazard Zone A*	2.3	UN1953		POISON GAS, FLAMMABLE GAS	1	None	192	245	Forbidden	Forbidden	D	40, 95
	Compressed gases, toxic, flammable, n.o.s. *Inhalation hazard Zone B*	2.3	UN1953		POISON GAS, FLAMMABLE GAS	2, B9, B14	None	302, 305	314, 315	Forbidden	Forbidden	D	40
	Compressed gases, toxic, flammable, n.o.s. *Inhalation Hazard Zone C*	2.3	UN1953		POISON GAS, FLAMMABLE GAS	3, B14	None	302, 305	314, 315	Forbidden	Forbidden	D	40
	Compressed gases, toxic, flammable, n.o.s. *Inhalation Hazard Zone D*	2.3	UN1953		POISON GAS, FLAMMABLE GAS	4	None	302, 305	314, 315	Forbidden	Forbidden	D	40
	Compressed gases, toxic, n.o.s. *Inhalation Hazard Zone A*	2.3	UN1955		POISON GAS	1	None	192	245	Forbidden	Forbidden	D	40
	Compressed gases, toxic, n.o.s. *Inhalation Hazard Zone B*	2.3	UN1955		POISON GAS	2, B9, B14	None	302, 305	314, 315	Forbidden	Forbidden	D	40
	Compressed gases, toxic, n.o.s. *Inhalation Hazard Zone C*	2.3	UN1955		POISON GAS	3, B14	None	302, 305	314, 315	Forbidden	Forbidden	D	40
	Compressed gases, toxic, n.o.s. *Inhalation Hazard Zone D*	2.3	UN1955		POISON GAS	4	None	302, 305	314, 315	Forbidden	Forbidden	D	40
D	Consumer commodity	ORM-D			None		156, 306	156, 306	None	60 kg gross	30 kg gross	A	
	Contrivances, water-activated, *with burster, expelling charge or propelling charge*	1.2L	UN0248	II	EXPLOSIVE 1.2L	101	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Contrivances, water-activated, *with burster, expelling charge or propelling charge*	1.3L	UN0249	II	EXPLOSIVE 1.3L	101	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Copper acetoarsenite	6.1	UN1585	II	POISON		None	212	242	25 kg	100 kg	A	

	Copper acetylide	Forbidden												
	Copper amine azide	Forbidden												
	Copper arsenite	6.1	UN1586	II	POISON		None	212	242	25 kg	100 kg	A		
	Copper based pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2776	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40	
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40	
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	B	40	
	Copper based pesticides, liquid, toxic	6.1	UN3010	I	POISON	T42	None	201	243	1 L	30 L	B	40	
				II	POISON	T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40	
	Copper based pesticides, liquid, toxic, flammable *flashpoint not less than 23 degrees C*	6.1	UN3009	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40	
				II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1, T14	153	203	242	60 L	220 L	A	40	
	Copper based pesticides, solid, toxic	6.1	UN2775	I	POISON		None	211	242	5 kg	50 kg	A	40	
				II	POISON		None	212	242	25 kg	100 kg	A	40	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40	
	Copper chlorate	5.1	UN2721	II	OXIDIZER	A1	152	212	242	5 kg	25 kg	A	56, 58, 106	
	Copper chloride	8	UN2802	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
	Copper cyanide	6.1	UN1587	II	POISON		None	204	242	25 kg	100 kg	A	26	
	Copper selenate, *see* Selenates or Selenites													
	Copper selenite, *see* Selenates or Selenites													
	Copper tetramine nitrate	Forbidden												
AW	Copra	4.2	UN1363	III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	Forbidden	Forbidden	A	13, 19, 48, 119	
	Cord, detonating, *flexible*	1.1D	UN0065	II	EXPLOSIVE 1.1D	102	63(a)	62	None	Forbidden	Forbidden	B		
	Cord, detonating, *flexible*	1.4D	UN0289	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A	24E	
	Cord detonating or Fuse detonating *metal clad*	1.2D	UN0102	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B		
	Cord, detonating or Fuse, detonating *metal clad*	1.1D	UN0290	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		
	Cord, detonating, mild effect or Fuse, detonating, mild effect *metal clad*	1.4D	UN0104	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A	24E	
	Cord, igniter	1.4G	UN0066	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E	
	Cordeau detonant fuse, see Cord, detonating, *etc.*, Cord, detonating, *flexible*													
	Cordite, see Powder, smokeless													
	Corrosive liquid, acidic, inorganic, n o s	8	UN3264	I	CORROSIVE	B10	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE	B2, T14	154	202	242	1 L	30 L	B	40	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	40	
	Corrosive liquid, acidic, organic, n o.s.	8	UN3265	I	CORROSIVE	B10	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE	B2, T14	154	202	242	1 L	30 L	B	40	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	40	
	Corrosive liquid, basic, inorganic, n o s	8	UN3266	I	CORROSIVE	B10	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE	B2, T14	154	202	242	1 L	30 L	B	40	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	40	
	Corrosive liquid, basic, organic, n.o.s	8	UN3267	I	CORROSIVE	B10	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE	B2, T14	154	202	242	1 L	30 L	B	40	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	40	
	Corrosive liquid, self-heating, n o s	8	UN3301	I	CORROSIVE, SPONTANEOUSLY COMBUSTIBLE	B10	None	201	243	0.5 L	2.5 L	D		
				II	CORROSIVE, SPONTANEOUSLY COMBUSTIBLE.	B2	154	202	242	1 L	30 L	D		
	Corrosive liquids, flammable, n o s	8	UN2920	I	CORROSIVE, FLAMMABLE LIQUID	B10, T42	None	201	243	0.5 L	2.5 L	C	25, 40	
				II	CORROSIVE, FLAMMABLE LIQUID	B2, T15, T26	None	202	243	1 L	30 L	C	25, 40	
	Corrosive liquids, n o s	8	UN1760	I	CORROSIVE	A7, B10, T42	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE	B2 T14	154	202	242	1 L	30 L	B	40	
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A	40	
	Corrosive liquids oxidizing n o s	8	UN3093	I	CORROSIVE, OXIDIZER		None	201	243	Forbidden	2.5 L	C	89	
				II	CORROSIVE, OXIDIZER		None	202	243	1 L	30 L	C	89	
	Corrosive liquids, toxic, n o s	8	UN2922	I	CORROSIVE, POISON	A7, B10	None	201	243	0.5 L	2.5 L	B	40	
				II	CORROSIVE, POISON	B3	None	202	243	1 L	30 L	B	40	
				III	CORROSIVE, KEEP AWAY FROM FOOD		154	203	241	5 L	60 L	B	40	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.—) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Corrosive liquids, water-reactive, n.o.s.	8	UN3094	I	CORROSIVE, DANGEROUS WHEN WET.		None	201	243	Forbidden	1 L	E	
				II	CORROSIVE, DANGEROUS WHEN WET.		None	202	243	1 L	5 L	E	
	Corrosive solid, acidic, inorganic, n.o.s.	8	UN3260	I	CORROSIVE		None	211	242	1 kg	25 kg	B	
				II	CORROSIVE		154	212	240	15 kg	50 kg	B	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Corrosive solid, acidic, organic, n.o.s.	8	UN3261	I	CORROSIVE		None	211	242	1 kg	25 kg	B	
				II	CORROSIVE		154	212	240	15 kg	50 kg	B	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Corrosive solid, basic, inorganic, n.o.s.	8	UN3262	I	CORROSIVE		None	211	242	1 kg	25 kg	B	
				II	CORROSIVE		154	212	240	15 kg	50 kg	B	10
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Corrosive solid, basic, organic, n.o.s.	8	UN3263	I	CORROSIVE		None	211	242	1 kg	25 kg	B	
				II	CORROSIVE		154	212	240	15 kg	50 kg	B	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Corrosive solids, flammable, n.o.s.	8	UN2921	I	CORROSIVE, FLAMMABLE SOLID		None	211	242	1 kg	25 kg	B	12, 25
				II	CORROSIVE, FLAMMABLE SOLID		None	212	242	15 kg	50 kg	B	12, 25
	Corrosive solids, n.o.s.	8	UN1759	I	CORROSIVE		None	211	242	1 kg	25 kg	B	
				II	CORROSIVE		154	212	240	15 kg	50 kg	A	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Corrosive solids, oxidizing, n.o.s.	8	UN3084	I	CORROSIVE, OXIDIZER		None	211	242	1 kg	25 kg	C	
				II	CORROSIVE, OXIDIZER		None	212	242	15 kg	50 kg	C	
	Corrosive solids, self heating, n.o.s.	8	UN3095	I	CORROSIVE, SPONTANEOUSLY COMBUSTIBLE		None	211	243	1 kg	25 kg	C	
				II	CORROSIVE, SPONTANEOUSLY COMBUSTIBLE		None	212	242	15 kg	50 kg	C	
	Corrosive solids, toxic, n.o.s.	8	UN2923	I	CORROSIVE, POISON		None	211	242	1 kg	25 kg	B	40
				II	CORROSIVE, POISON		None	212	240	15 kg	50 kg	B	40
				III	CORROSIVE, KEEP AWAY FROM FOOD.		154	213	240	25 kg	100 kg	B	40, 95
	Corrosive solids, water-reactive, n.o.s.	8	UN3096	I	CORROSIVE, DANGEROUS WHEN WET.		None	211	243	1 kg	25 kg	D	
				II	CORROSIVE, DANGEROUS WHEN WET.		None	212	242	15 kg	50 kg	D	
DW	Cotton	9			CLASS 9	W41	None	None	None	No limit	No limit	A	
AIW	Cotton waste, oily	4.2	UN1364	III	SPONTANEOUSLY COMBUSTIBLE.	N9	None	213	None	Forbidden	Forbidden	A	64
AIW	Cotton, wet	4.2		III	SPONTANEOUSLY COMBUSTIBLE.		None	204	241	Forbidden	Forbidden	A	
	Coumarin derivative pesticides, liquid, flammable, toxic, *flashpoint less than 23 degrees C*	3	UN3024	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
	Coumarin derivative pesticides, liquid, flammable, toxic, *flashpoint less than 23 degrees C*	6.1	UN3025	I	POISON, FLAMMABLE LIQUID.		None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.		None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1	153	203	242	60 L	220 L	A	40
	Coumarin derivative pesticides, liquid, toxic	6.1	UN3026	I	POISON		None	201	243	1 L	30 L	B	40
				II	POISON		None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	A	40
	Coumarin derivative pesticides, solid, toxic	6.1	UN3027	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40

			III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
Cresols	6.1	UN2076	II	POISON, CORROSIVE	T8	None	202	243	1 L	30 L	B	
Cresylic acid	6.1	UN2022	II	POISON, CORROSIVE	T8	None	202	243	1 L	30 L	B	
Crotonaldehyde, stabilized	6.1	UN1143	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	30 L	B	40
Crotonic acid *liquid*	8	UN2823	III	CORROSIVE		154	203	241	5 L	60 L	A	12
Crotonic acid, *solid*	8	UN2823	III	CORROSIVE		154	213	240	25 kg	100 kg	A	12
Crotonylene	3	UN1144	I	FLAMMABLE LIQUID	T20	150	201	243	1 L	30 L	E	
Cupriethylenediamine solution	8	UN1761	II	CORROSIVE, POISON	T8, T26	None	202	243	1 L	30 L	A	95
			III	CORROSIVE, KEEP AWAY FROM FOOD.	T7	154	203	242	5 L	60 L	A	95
Cutters, cable, explosive	1.4S	UN0070	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
Cyanide or cyanide mixtures, dry, see Cyanides, inorganic, n.o.s.												
Cyanide solutions, n.o.s.	6.1	UN1935	I	POISON	B37, T18, T26	None	201	243	1 L	30 L	B	40, 52
			II	POISON	T18, T26	None	202	243	5 L	60 L	A	40, 52
			III	KEEP AWAY FROM FOOD	T18, T26	153	203	241	60 L	220 L	A	40, 52
Cyanides, inorganic, solid n.o.s.	6.1	UN1588	I	POISON	N74, N75	None	211	242	5 kg	50 kg	A	52
			II	POISON	N74, N75	None	212	242	25 kg	100 kg	A	52
			III	KEEP AWAY FROM FOOD.	N74, N75	153	213	240	100 kg	200 kg	A	52
Cyanogen bromide	6.1	UN1889	I	POISON, CORROSIVE	25, A6, A8	None	211	242	Forbidden	Forbidden	D	40
Cyanogen chloride, inhibited	2.3	UN1589		POISON GAS, CORROSIVE	1	None	192	245	Forbidden	Forbidden	D	40
Cyanogen, liquefied	2.3	UN1026		POISON GAS, FLAMMABLE GAS	2	None	192	245	Forbidden	Forbidden	D	40
Cyanuric chloride	8	UN2670	II	CORROSIVE		None	212	240	15 kg	50 kg	A	12, 40
Cyanuric triazide	Forbidden											
Cyclobutane	2.1	UN2601		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
Cyclobutylchloroformate	6.1	UN2744	II	POISON, CORROSIVE	T18	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
1,5,9-Cyclododecatriene	6.1	UN2518	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	40
Cycloheptane	3	UN2241	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	40
Cycloheptatriene	3	UN2603	II	FLAMMABLE LIQUID, POISON	T14	None	202	243	1 L	60 L	E	40
Cycloheptene	3	UN2242	II	FLAMMABLE LIQUID	B1, T7	150	202	242	5 L	60 L	B	
Cyclohexane	3	UN1145	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	
Cyclohexanone	3	UN1915	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclohexene	3	UN2256	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	E	
Cyclohexenyltrichlorosilane	8	UN1762	II	CORROSIVE	A7, B2, N34, T8, T26	None	202	242	Forbidden	30 L	C	40
Cyclohexyl acetate	3	UN2243	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclohexyl isocyanate	6.1	UN2488	II	POISON	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	5 L	60 L	D	40
Cyclohexyl mercaptan	3	UN3054	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40, 95
Cyclohexylamine	8	UN2357	II	CORROSIVE, FLAMMABLE LIQUID	T8, T26	None	202	243	1 L	30 L	A	40
Cyclohexyltrichlorosilane	8	UN1763	II	CORROSIVE	A7, B2, N34, T8, T26	None	202	242	Forbidden	30 L	C	40
Cyclonite and cyclotetramethylenetetranitramine mixtures, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*												
Cyclonite and HMX *mixtures*, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*												
Cyclonite and octogen mixtures, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*												
Cyclonite, *see* Cyclotrimethylenetrinitramine, *etc.*												
Cyclooctadiene phosphines, *see* 9-Phosphabicyclononanes												
Cyclooctadienes	3	UN2520	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclooctatetraene	3	UN2358	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
Cyclopentane	3	UN1146	II	FLAMMABLE LIQUID	T14	150	202	242	5 L	60 L	E	
Cyclopentane, methyl see Methyl cyclopentane												
Cyclopentanol	3	UN2244	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclopentanone	3	UN2245	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclopentene	3	UN2246	II	FLAMMABLE LIQUID	T13	150	202	242	5 L	60 L	E	
Cyclopropane, liquefied	2.1	UN1027		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
Cyclotetramethylene tetranitramine (dry or unphlegmatized) (HMX)	Forbidden											
Cyclotetramethylenetetranitramine, desensitized *or* Octogen, desensitized *or* HMX, desensitized	1.1D	UN0484	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Cyclotetramethylenetetranitramine, wetted *or* HMX, wetted *or* Octogen, wetted *with not less than 15 percent water by mass*	1.1D	UN0226	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E

§172.101 HAZARDOUS MATERIALS TABLE—Continued

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	Cyclotrimethylenetrinitramine and octogen mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Cyclotrimethylenetrinitramine and HMX mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Cyclotrimethylenetrinitramine, desensitized, or Cyclonite, desensitized, or Hexogen, desensitized or RDX, desensitized	1.1D	UN0483	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Cyclotrimethylenetrinitramine, wetted or Cyclonite, wetted or Hexogen, wetted or RDX, wetted with not less than 15 percent water by mass	1.1D	UN0072	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Cymenes	3	UN2046	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Decaborane	4.1	UN1868	II	FLAMMABLE SOLID, POISON	A19, A20	None	212	None	Forbidden	50 kg	A	
	Decahydronaphthalene	3	UN1147	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	n-Decane	3	UN2247	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Deflagrating metal salts of aromatic nitroderivatives, n.o.s.	1.3C	UN0132	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Delay electric igniter, see Igniters												
D	Denatured alcohol	3	NA1986	II	FLAMMABLE LIQUID, POISON	T8, T31	None	201	243	Forbidden	30 L	E	40
				II	FLAMMABLE LIQUID, POISON	T8, T31	None	202	243	1 L	60 L	E	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T8, T31	150	203	242	60 L	220 L	E	40
D	Denatured alcohol	3	NA1987	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Depth charges, see Charges, depth												
	Detonating relays, see Detonators, etc.												
	Detonator assemblies, non-electric for blasting	1.1B	UN0360	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Detonator assemblies, non-electric, for blasting	1.4B	UN0361	II	EXPLOSIVE 1.4B	103	63(f), 63(g)	62	None	Forbidden	75 kg	A	24E
	Detonators, electric, for blasting	1.1B	UN0030	II	EXPLOSIVE 1.1B		63(f), 63(g)	62	None	Forbidden	Forbidden	B	2E, 6E
	Detonators, electric, for blasting	1.4B	UN0255	II	EXPLOSIVE 1.4B	103	63(f), 63(g)	62	None	Forbidden	75 kg	A	24E
	Detonators, electric for blasting	1.4S	UN0456	II	EXPLOSIVE 1.4S	104	63(f), 63(g)	62	None	25 kg	100 kg	A	
	Detonators for ammunition	1.1B	UN0073	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Detonators for ammunition	1.2B	UN0364	II	EXPLOSIVE 1.2B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Detonators for ammunition	1.4B	UN0365	II	EXPLOSIVE 1.4B	103	None	62	None	Forbidden	75 kg	A	24E
	Detonators for ammunition	1.4S	UN0366	II	EXPLOSIVE 1.4S	104	None	62	None	25 kg	100 kg	A	
	Detonators, non-electric, for blasting	1.1B	UN0029	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Detonators, non-electric, for blasting	1.4B	UN0267	II	EXPLOSIVE 1.4B	103	63(f), 63(g)	62	None	Forbidden	75 kg	A	24E
	Detonators, non-electric for blasting	1.4S	UN0455	II	EXPLOSIVE 1.4S	104	None	62	None	25 kg	100 kg	A	
	Deuterium	2.1	UN1957		FLAMMABLE GAS		306	302	None	Forbidden	150 kg	B	40
	Devices, small, hydrocarbon gas powered or Hydrocarbon gas refills for small devices with release device	2.1	UN3150		FLAMMABLE GAS		306	304	None	Forbidden	150 kg	B	40
	Di-n-amylamine	3	UN2841	III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T8	150	203	242	60 L	220 L	A	
	Di-n-butyl peroxydicarbonate, with more than 52 percent in solution	Forbidden											
	Di-n-butylamine	8	UN2248	II	CORROSIVE, FLAMMABLE LIQUID	T8	None	202	243	1 L	30 L	A	
	2,2-Di-(tert-butylperoxy) butane, with more than 55 percent in solution	Forbidden											
	Di-(tert-butylperoxy) phthalate, with more than 55 percent in solution	Forbidden											
	2,2-Di-(4,4-di-tert-butylperoxycyclohexyl) propane, with more than 42 percent with inert solid	Forbidden											
	Di-2,4-dichlorobenzoyl peroxide, with more than 75 percent with water	Forbidden											
	1,2-Di-(dimethylamino) ethane	3	UN2372	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Di-2-ethylhexyl phosphoric acid, see Diisooctyl acid phosphate												
	Di-(1-hydroxytetrazole) (dry)	Forbidden											

Di-(1-naphthoyl) peroxide		Forbidden																	
4,4'-Di-(trimethylsilyl) methylether		Forbidden																	
Di-tbeta-nitroxyethyl) ammonium nitrate		Forbidden																	
Diacetone alcohol	3	UN1148	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B								
			III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A								
Diacetone alcohol peroxides, with more than 57 percent in solution with more than 9 percent hydrogen peroxide, less than 26 percent diacetone alcohol and less than 9 percent water; total active oxygen content more than 9 percent by mass	Forbidden																		
Diacetyl, see Butanedione																			
Diacetyl peroxide, solid, or with more than 25 percent in solution	Forbidden																		
Diallylamine	3	UN2359	II	FLAMMABLE LIQUID, POISON, CORROSIVE	T8	None	202	243	1 L	5 L	B	21, 40, 100							
Diallylether	3	UN2360	II	FLAMMABLE LIQUID, POISON	N12, T8	None	202	243	1 L	60 L	E	40							
4,4'-Diaminodiphenyl methane	6.1	UN2651	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A								
p-Diazidobenzene	Forbidden																		
1,2-Diazidoethane	Forbidden																		
1,1'-Diazoaminonaphthalene	Forbidden																		
Diazoaminotetraxole (dry)	Forbidden																		
Diazodinitrophenol (dry)	Forbidden																		
Diazodinitrophenol, wetted *with not less than 40 percent water or mixture of alcohol and water, by mass*	1.1A	UN0074	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E							
Diazodiphenylmethane	Forbidden																		
Diazonium nitrates (dry)	Forbidden																		
Diazonium perchlorates (dry)	Forbidden																		
1,3-Diazopropene	Forbidden																		
Dibenzyl peroxydicarbonate, with more than 87 percent with water	Forbidden																		
Diborane	2.3	UN1911	II	CORROSIVE, FLAMMABLE GAS	B2, T8, T26	154	202	242	1 L	30 L	C	40							
			III	FLAMMABLE GAS	1	None	302	None	Forbidden	Forbidden	D	40, 57							
Diborane mixtures	2.1	NA1911		FLAMMABLE GAS	5	None	302	245	Forbidden	Forbidden	D	40, 57							
Dibromoacetylene	Forbidden																		
Dibromobenzene	3	UN2711	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40							
1,2-Dibromobutan-3-one	6.1	UN2648	II	POISON		None	202	243	5 L	60 L	B								
Dibromochloropropane	6.1	UN2872	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A								
Dibromodifluoromethane, *R1282*	9	UN1941	III	None	T22	155	203	241	100 L	220 L	A	25							
1,2-Dibromoethane, see Ethylene dibromide																			
Dibromomethane	6.1	UN2664	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A								
Dibutyl ethers	3	UN1149	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A								
Dibutylaminoethanol	6.1	UN2873	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A								
N,N'-Dichlorazodicarbonamidine (salts of) (dry)	Forbidden																		
1,1-Dichloro-1-nitroethane	6.1	UN2650	II	POISON	T8	None	202	243	5 L	60 L	A	12, 40							
3,5-Dichloro-2,4,6-trifluoropyridine	6.1	NA9264	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	A	40, 55							
Dichloroacetic acid	8	UN1764	II	CORROSIVE	A3, A6, A7, B2, N34, T9, T27	154	202	242	1 L	30 L	A								
1,3-Dichloroacetone	6.1	UN2649	II	POISON		None	212	242	25 kg	100 kg	B	12, 40							
Dichloroacetyl chloride	8	UN1765	II	CORROSIVE	A3, A5, A7, B2, B6, N34, T8, T26	154	202	242	1 L	30 L	D	40							
Dichloroacetylene	Forbidden																		
Dichloroanilines, liquid	6.1	UN1590	II	POISON	T14	None	202	243	5 L	60 L	A	40							
Dichloroanilines, solid	6.1	UN1590	II	POISON	T14	None	212	242	25 kg	100 kg	A	40							
o-Dichlorobenzene	6.1	UN1591	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A								
Dichlorobutene	8	NA2920	I	CORROSIVE, FLAMMABLE LIQUID		None	201	243	0.5 L	2.5 L	C	12, 21, 25, 40, 48							
2,2'-Dichlorodiethyl ether	6.1	UN1916	II	POISON, FLAMMABLE LIQUID	N33, N34, T8	None	202	243	5 L	60 L	A								
Dichlorodifluoromethane and difluoroethane azeotropic mixture with approximately 74 percent dichlorodifluoromethane, R500	2.2	UN2602		NONFLAMMABLE GAS		308	304	314, 315	75 kg	150 kg	A								
Dichlorodifluoromethane, *R12*	2.2	UN1028		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A								
Dichlorodimethyl ether, symmetrical	6.1	UN2249	I	POISON	T25	None	201	243	Forbidden	Forbidden	D	40							
1,1-Dichloroethane	3	UN2362	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40							
1,2-Dichloroethane, see Ethylene dichloride																			
Dichloroethyl sulfide	Forbidden																		
Dichloroethylene	3	UN1150	II	FLAMMABLE LIQUID	T14	150	202	242	5 L	60 L	B								
Dichlorofluoromethane, *R21*	2.2	UN1029		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A								

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.—)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Dichloroisocyanuric acid, dry or Dichloroisocyanuric acid salts	5.1	UN2465	II	OXIDIZER	28	152	213	240	5 kg	25 kg	A	13
	Dichloroisopropyl ether	6.1	UN2490	II	POISON	T8	None	202	243	5 L	60 L	B	
	Dichloromethane	6.1	UN1593	III	KEEP AWAY FROM FOOD,	N36, T13	153	203	241	60 L	220 L	A	
	Dichloropentanes	3	UN1152	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Dichlorophenyl isocyanates	6.1	UN2250	II	POISON		None	212	242	25 kg	100 kg	A	25, 40, 38
	Dichlorophenyltrichlorosilane	8	UN1766	II	CORROSIVE	A7, B2, B6, N34, T8, T25	None	203	242	Forbidden	30 L	C	40
	Dichloropropane: see Propylene dichloride												
	1,2-Dichloropropanol-2	6.1	UN2750	II	POISON	T8	None	202	243	5 L	60 L	A	12, 40
	Dichloropropene and propylene dichloride mixture, see Propylene dichloride												
	Dichloropropenes	3	UN2047	II	FLAMMABLE LIQUID	T9	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	
	Dichlorosilane	2.3	UN2189		POISON GAS, FLAMMABLE GAS, CORROSIVE	2, B9, B14	None	304	314, 315	Forbidden	Forbidden	D	17, 40
	Dichlorotetrafluoroethane, *R114*	2.2	UN1958		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Dichlorovinylchloroarsine	Forbidden											
	Dicyclohexadiene, *see* Norbornadiene												
	Dicyclohexylamine	8	UN2565	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	
	Dicyclohexylammonium nitrite	4.1	UN2687	III	FLAMMABLE SOLID		153	213	240	25 kg	100 kg	A	48
	Dicyclopentadiene	3	UN2048	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Didymium nitrate	5.1	UN1465	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
R	Dieldrin	6.1	NA2761	III	POISON		None	213	242	0.5 kg	5 kg	A	40
D	Diesel fuel	3	NA1993	III	None	B1	150	203	242	60 L	220 L	A	
	Diethanol nitrosamine dinitrate (dry)	Forbidden											
	Diethoxymethane	3	UN2373	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	3,3-Diethoxypropene	3	UN2374	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	N,N-Diethyl aniline	6.1	UN2432	III	KEEP AWAY FROM FOOD,	T2	153	203	241	60 L	220 L	A	
	Diethyl carbonate	3	UN2366	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Diethyl cellosolve, see Ethylene glycol diethyl ether												
	Diethyl ether or Ethyl ether	3	UN1155	I	FLAMMABLE LIQUID	T21	150	201	243	1 L	30 L	E	40
	Diethyl ketone	3	UN1156	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Diethyl peroxydicarbonate, with more than 27 percent in solution	Forbidden											
	Diethyl sulfate	6.1	UN1594	II	POISON	T14	None	202	243	5 L	60 L	C	
	Diethyl sulfide	3	UN2375	II	FLAMMABLE LIQUID	T14	None	202	243	1 L	60 L	E	
	Diethylamine	3	UN1154	II	FLAMMABLE LIQUID, CORROSIVE	N34, T8	None	202	243	1 L	5 L	E	40
	Diethylaminoethanol	8	UN2686	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Diethylaminopropylamine	8	UN2684	III	FLAMMABLE LIQUID, CORROSIVE	B1, T8	150	203	242	60 L	60 L	A	
	Diethylbenzene	3	UN2049	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Diethyldichlorosilane	8	UN1767	II	CORROSIVE, FLAMMABLE LIQUID.	A7, B6, N34, T8, T28	None	202	243	Forbidden	30 L	C	40
	Diethylene glycol dinitrate	Forbidden											
	Diethyleneglycol dinitrate, desensitized *with not less than 25 percent non-volatile water-insoluble phlegmatizer by mass*	1.1D	UN0075	II	EXPLOSIVE 1.1D		None	66	None	Forbidden	Forbidden	B	15, 4E, 21E
	Diethylenetriamine	8	UN2079	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	40
	N,N-Diethylethylenediamine	8	UN2685	II	CORROSIVE, FLAMMABLE LIQUID.	T8	None	202	243	1 L	30 L	A	
	Diethylgold bromide	Forbidden											
	Diethyldichlorosilane, *see* Diethyldichlorosilane												
	Diethylene	4.2	UN1368	I	SPONTANEOUSLY COMBUSTIBLE.	B11, T23, T40	None	181	244	Forbidden	Forbidden	D	18
	Difluorochloroethanes, see Chloro-1,1-difluoroethanes												
	1,1-Difluoroethane, *R152a*	2.1	UN1030		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
	1,1-Difluoroethylene, *R1132a*	2.1	UN1959		FLAMMABLE GAS		306	304	None	Forbidden	150 kg	E	40
	Difluoromethane	2.1	UN3252		FLAMMABLE GAS		306	302	314, 315	Forbidden	150 kg	D	40

Difluorophosphoric acid, anhydrous	8	UN1768	II	CORROSIVE	A6, A7, B2, N5, N34, T9, T27	None	202	242	1 L	30 L	A	40
2,3-Dihydropyran	3	UN2376	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	
1,8-Dihydroxy-2,4,5,7-tetranitroanthraquinone (chrysamminic acid)	Forbidden											
Diiodoacetylene	Forbidden											
Diisobutyl ketone	3	UN1157	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Diisobutylamine	3	UN2361	III	FLAMMABLE LIQUID, CORROSIVE	B1, T1	150	203	242	5 L	60 L	A	
Diisobutylene isomeric compounds	3	UN2050	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
Diisooctyl acid phosphate	8	UN1902	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
Diisopropyl ether	3	UN1159	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	40
Diisopropylamine	3	UN1158	II	FLAMMABLE LIQUID, CORROSIVE.	T8	None	202	243	1 L	5 L	B	
Diisopropylbenzene hydroperoxide, with more than 72 percent in solution	Forbidden											
Diketene, inhibited	6.1	UN2521	I	POISON, FLAMMABLE LIQUID	2, B9 B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40, 49
1,2-Dimethoxyethane	3	UN2252	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
1,1-Dimethoxyethane	3	UN2377	II	FLAMMABLE LIQUID	T13	150	202	242	5 L	60 L	B	
Dimethyl carbonate	3	UN1161	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
Dimethyl chlorothiophosphate, see Dimethyl thiophosphoryl chloride												
2,5-Dimethyl-2,5-dihydroperoxy hexane with more than 82 percent with water	Forbidden											
Dimethyl disulfide	3	UN2381	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
Dimethyl ether	2.1	UN1033		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
Dimethyl N-propylamine	3	UN2265	II	FLAMMABLE LIQUID, CORROSIVE	T14, T26	None	202	243	1 L	5 L	B	40
Dimethyl sulfate	6.1	UN1595	I	POISON, CORROSIVE	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
Dimethyl sulfide	3	UN1164	II	FLAMMABLE LIQUID	T14	None	202	242	5 L	60 L	E	40
Dimethyl thiophosphoryl chloride	6.1	UN2267	II	POISON, CORROSIVE	T7	None	202	243	1 L	30 L	B	25
Dimethylamine, anhydrous	2.1	UN1032		FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	D	40
Dimethylamine solution	3	UN1160	II	FLAMMABLE LIQUID, CORROSIVE	T8, T34	None	202	243	1 L	5 L	B	
2-Dimethylaminoacetonitrile	3	UN2378	II	FLAMMABLE LIQUID, POISON	T8	None	202	243	1 L	60 L	A	26, 40
2-Dimethylaminoethanol	8	UN2051	III	CORROSIVE, FLAMMABLE LIQUID	B1, T8	154	203	242	60 L	220 L	A	
Dimethylaminoethyl methacrylate	6.1	UN2522	II	POISON	T8	None	202	243	5 L	60 L	B	40
N,N-Dimethylaniline	6.1	UN2253	II	POISON	T8	None	202	243	5 L	60 L	A	
2,3-Dimethylbutane	3	UN2457	II	FLAMMABLE LIQUID	T13	150	202	242	5 L	60 L	E	
1,3-Dimethylbutylamine	3	UN2379	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	
Dimethylcarbamoyl chloride	8	UN2262	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	40
Dimethylcyclohexanes	3	UN2263	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
Dimethylcyclohexylamine	8	UN2264	II	CORROSIVE, FLAMMABLE LIQUID	B2, T8	154	202	243	1 L	30 L	A	40
Dimethyldichlorosilane	3	UN1162	II	FLAMMABLE LIQUID, CORROSIVE	B77, T15, T28	None	202	243	Forbidden	Forbidden	B	40
Dimethyldiethoxysilane	3	UN2380	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
Dimethyldioxanes	3	UN2707	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
			III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
N,N-Dimethylformamide	3	UN2265	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Dimethylhexane dihydroperoxide (dry)	Forbidden											
Dimethylhydrazine, symmetrical	6.1	UN2382	I	POISON, FLAMMABLE LIQUID	2, A7, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
Dimethylhydrazine, unsymmetrical	6.1	UN1163	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	2, B9, B14, B32, B74, B79, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	21, 38, 40, 100
2,2-Dimethylpropane	2.1	UN2044		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
Dimethylzinc	4.2	UN1370	I	SPONTANEOUSLY COMBUSTIBLE.	B11, B16, T28, T29, T40	None	181	244	Forbidden	Forbidden	D	18
Dinitro-o-cresol, *solid*	6.1	UN1598	II	POISON	T14	None	212	242	25 kg	100 kg	A	
Dinitro-o-cresol, *solution*	6.1	UN1598	II	POISON	T14	None	202	243	5 L	60 L	A	
1,3-Dinitro-5,5-dimethyl hydantoin	Forbidden											
Dinitro-7,8-dimethylglycoluril (dry)	Forbidden											
1,3-Dinitro-4,5-dinitrosobenzene	Forbidden											
1,4-Dinitro-1 1,4,4-tetramethylolbutanetetranitrate (dry)	Forbidden											
2,4-Dinitro-1,3 5-trimethylbenzene	Forbidden											
Dinitroanilines	6.1	UN1596	II	POISON	T14	None	212	242	25 kg	100 kg	A	91

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.**) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Dinitrobenzenes, liquid	6.1	UN1597	II	POISON	A1, T14	None	202	243	5 L	60 L	A	91
	Dinitrobenzenes, solid	6.1	UN1597	II	POISON	T1	None	212	242	25 kg	100 kg	A	91
	Dinitrochlorobenzene, see Chlorodinitrobenzene												
	1,8-Dinitrooctane	Forbidden											
	1,1-Dinitroethane (dry)	Forbidden											
	Dinitrogen tetroxide, liquefied	2.3	UN1067		POISON GAS, OXIDIZER, CORROSIVE	1, B7, B12, B14, B45, B46, B61, B66, B67, B77	None	306	314	Forbidden	Forbidden	D	40, 89, 90
	Dinitroglycoluril or Dingu	1.1D	UN0489	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	P	1E, 5E
	Dinitromethane	Forbidden											
	Dinitrophenol, dry or wetted with less than 15 percent water, by mass	1.1D	UN0076	II	EXPLOSIVE 1.1D, POISON		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Dinitrophenol solutions	6.1	UN1599	II	POISON	T8	None	202	243	5 L	60 L	A	89
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	89
	Dinitrophenol, wetted with not less than 15 percent water, by mass	4.1	UN1320	II	FLAMMABLE SOLID, POISON	23, A8, A19, A20, N41	None	211	None	1 kg	15 kg	E	28, 38
	Dinitrophenolates, alkali metals, dry or wetted with less than 15 percent water, by mass	1.3C	UN0077	II	EXPLOSIVE 1.3C, POISON		None	69	None	Forbidden	Forbidden	B	1E, 5E
	Dinitrophenolates, wetted with not less than 15 percent water, by mass	4.1	UN1321	II	FLAMMABLE SOLID, POISON	23, A8, A19, A20, N41	None	211	None	1 kg	15 kg	E	28, 38
	Dinitropropylene glycol	Forbidden											
	Dinitroresorcinol, dry or wetted with less than 15 percent water, by mass	1.1D	UN0078	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	2,4-Dinitroresorcinol (heavy metal salts of) (dry)	Forbidden											
	4,6-Dinitroresorcinol (heavy metal salts of) (dry)	Forbidden											
	Dinitroresorcinol, wetted with not less than 15 percent water, by mass	4.1	UN1322	II	FLAMMABLE SOLID	23, A8, A19, A20, N41	None	211	None	1 kg	15 kg	E	28, 38
	3,5-Dinitrosalicylic acid (lead salt) (dry)	Forbidden											
	Dinitrosobenzene	1.3C	UN0406	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Dinitrosobenzylamine and salts of (dry)	Forbidden											
	2,6-Dinitrotoluene	Forbidden											
	Dinitrotoluenes, liquid	6.1	UN2038	II	POISON	T8	None	202	243	5 L	60 L	A	
	Dinitrotoluenes, molten	6.1	UN1600	II	POISON	T14	None	202	243	Forbidden	Forbidden	D	
	Dinitrotoluenes, solid	6.1	UN2038	II	POISON	T8	None	212	242	25 kg	100 kg	A	
	1,3-Dinitro-2-oxy pentamethylene-2,4, 5,5-tetramine (dry)	Forbidden											
	Dioxane	3	UN1165	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Dioxolane	3	UN1166	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Dipentene	3	UN2052	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Diphenylamine chloroarsine	6.1	UN1698	I	POISON		None	201	None	Forbidden	Forbidden	D	40
	Diphenylchlorarsine, liquid	6.1	UN1699	I	POISON	A6, B14, B32, N33, N34	None	201	243	Forbidden	30 L	D	40
	Diphenylchlorarsine, solid	6.1	UN1699	I	POISON	A6, B14, B32, N33, N34	None	211	242	Forbidden	15 kg	D	40
	Diphenyldichlorsilane	8	UN1769	II	CORROSIVE	A7, B2, N34, T8, T25	None	202	242	Forbidden	30 L	D	40
	Diphenylmethane-4,4'diisocyanate	6.1	UN2489	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A	48
	Diphenylmethyl bromide	8	UN1770	II	CORROSIVE		154	212	240	15 kg	50 kg	D	40
	Diphenyl sulfide, dry or wetted with less than 10 percent water, by mass	1.1D	UN0401	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Diphenyl sulfide, wetted with not less than 10 percent water, by mass	4.1	UN2852	II	FLAMMABLE SOLID	A2, N41	None	211	None	Forbidden	0.5 kg	D	28
	Dipicrylamine, see Hexanitrodiphenylamine												
	Dipropionyl peroxide, with more than 28 percent in solution	Forbidden											
	Dipropyl ether	3	UN2384	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Dipropylamine	3	UN2383	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	242	1 L	5 L	B	
	Dipyrylketone	3	UN2710	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Disinfectants, liquid, corrosive n.o.s.	8	UN1903	II	CORROSIVE	B2	154	202	242	1 L	30 L	B	
				III	CORROSIVE		154	203	241	5 L	60 L	A	
	Disinfectants, liquid, toxic, n.o.s.	6.1	UN3142	I	POISON	A4, T42	None	201	243	1 L	30 L	A	40
				II	POISON	T14	None	202	243	5 L	60 L	A	40
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	48

	Disinfectants, solid, toxic n o s	6.1	UN1601	II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
	Disodium trioxosilicate, pentahydrate	8	UN3253	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Dispersant gases, n o.s *see* Refrigerant gases, n o.s												
	Dithiocarbamate pesticides, liquid flammable, toxic, *flash point less than 23 degrees C*	3	UN2772	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	B	40
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3006	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Dithiocarbamate pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN3005	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD FLAMMABLE LIQUID	T14	153	203	242	60 L	220 L	A	40
	Dithiocarbamate pesticides, solid, toxic	6.1	UN2771	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
	Divinyl ether, inhibited	3	UN1167	I	FLAMMABLE LIQUID	T14	None	201	243	5 L	60 L	E	40
D	Dodecylbenzenesulfonic acid	8	NA2584	II	CORROSIVE	B2	154	202	242	1 L	30 L	B	9
	Dodecyltrichlorosilane	8	UN1771	II	CORROSIVE	A7, B2, B6, N34, T8, T26	None	202	242	Forbidden	30 L	C	40
	Dry ice, *see* Carbon dioxide, solid												
	Dyes, liquid, corrosive n o s *or* Dye intermediates, liquid, corrosive, n o s	8	UN2801	II	CORROSIVE	11, B2, T14	154	202	242	1 L	30 L	A	
				III	CORROSIVE	11, T7	154	203	241	5 L	60 L	A	
	Dyes, liquid toxic, n o s *or* Dye intermediates, liquid toxic, n.o.s.	6.1	UN1602	II	POISON		None	202	243	5 L	60 L	A	
				III	KEEP AWAY FROM FOOD		153	203	241	60 L	220	A	
	Dyes, solid, corrosive, n o s *or* Dye intermediates, solid, corrosive, n o s	8	UN3147	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Dyes, solid, toxic, n o s *or* Dye intermediates, solid, toxic, n o s	6.1	UN3143	I	POISON	A5	None	211	242	5 kg	50 kg	A	
				II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Dynamite, see Explosive, blasting, type A												
	Electrolyte (acid or alkali) for batteries, see Battery fluid, acid *or* Battery fluid, alkali												
	Elevated temperature liquid, flammable, n o s, *with flash point above 37.8 C, at or above its flash point*	3	UN3256	III	FLAMMABLE LIQUID	T1	None	None	247	Forbidden	Forbidden	A	
	Elevated temperature liquid, n o s, *at or above 100 C and below its flash point*	9	UN3257	III	CLASS 9	T1	None	None	247	Forbidden	Forbidden	A	85
	Elevated temperature solid, n o s, *at or above 240 C, see section 173.247(h)(4)*	9	UN3258	III	CLASS 9		247(h)(4)	None	247	Forbidden	Forbidden	A	85
	Engine starting fluid, *with flammable gas*	2.1	UN1960		FLAMMABLE GAS		None	304	None	Forbidden	150 kg	D	40
	Engines, internal combustion, *including when fitted in machinery or vehicles*	9	UN3166		CLASS 9		220	220	None	Forbidden	No limit	A	
	Engines, internal combustion, *see* Vehicle, self-propelled												
	Environmentally hazardous substances, liquid n o.s	9	UN3082	III	CLASS 9	8 N50 T1	155	203	241	None	None	A	
	Environmentally hazardous substances solid, n o s	9	UN3077	III	CLASS 9	8, B50, B54	155	213	240	None	None	A	
	Epibromohydrin	6.1	UN2558	I	POISON	T18, T26	None	201	243	Forbidden	Forbidden	D	40
	Epichlorohydrin	6.1	UN2023	II	POISON	T14	None	202	243	5 L	60 L	A	40
	1,2-Epoxy-3-ethoxypropane	3	UN2752	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Esters, n o.s	3	UN3272	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A	
	Etching acid, liquid, n o.s, see Hydrofluoric acid, solution *etc*												
	Ethane, compressed	2.1	UN1035		FLAMMABLE GAS		306	304	302	Forbidden	150 kg	E	40
D	Ethane-Propane mixture refrigerated liquid	2.1	NA1961		FLAMMABLE GAS		None	316	314, 315	Forbidden	Forbidden	D	40
	Ethane, refrigerated liquid	2.1	UN1961		FLAMMABLE GAS		None	None	315	Forbidden	Forbidden	D	40
	Ethanol amine dinitrate	Forbidden											
	Ethanol *or* Ethyl alcohol *or* Ethanol solutions *or* Ethyl alcohol solutions	3	UN1170	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	A	
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethanolamine *or* Ethanolamine solutions	8	UN2491	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Ether see Diethyl ether												

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.*) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or railcar (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Ethers, n.o.s.	3	UN3271	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A	
	Ethyl acetate	3	UN1173	II	FLAMMABLE LIQUID	T2	150	202	242	5 L	60 L	B	
	Ethyl acrylate, inhibited	3	UN1917	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Ethyl alcohol, see Ethanol												
	Ethyl aldehyde, see Acetaldehyde												
	Ethyl amyl ketone	3	UN2271	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	N-Ethyl-N-benzylaniline	6.1	UN2274	III	KEEP AWAY FROM FOOD	T2	153	203	241	60 L	220 L	A	
	Ethyl borate	3	UN1176	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Ethyl bromide	6.1	UN1891	II	POISON	T17	None	202	243	5 L	60 L	B	40, 85
	Ethyl bromoacetate	6.1	UN1603	II	POISON	T14	None	202	243	Forbidden	Forbidden	D	40
	Ethyl butyl ether	3	UN1179	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B	
	Ethyl butyrate	3	UN1180	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethyl chloride	2.1	UN1037		FLAMMABLE GAS	B63, B77	None	322	314, 315	Forbidden	150 kg	B	40
	Ethyl chloroacetate	6.1	UN1181	II	POISON	T14	None	202	243	5 L	60 L	A	
	Ethyl chloroformate	6.1	UN1182	I	POISON, FLAMMABLE LIQUID, CORROSIVE	2, A3, A6, A7, B9, B14, B32, B74, N34, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	21, 40, 100
	Ethyl-2-chloropropionate	3	UN2935	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
+	Ethyl chlorothioformate	8	UN2826	II	CORROSIVE, POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45	None	227	243	Forbidden	Forbidden	A	40
	Ethyl crotonate	3	UN1862	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Ethyl cyanoacetate	6.1	UN2666	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A	28
	Ethyl ether, see Diethyl ether												
	Ethyl fluoride	2.1	UN2453		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
	Ethyl formate	3	UN1190	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	
	Ethyl hydroperoxide	Forbidden											
	Ethyl isobutyrate	3	UN2385	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
+	Ethyl isocyanate	3	UN2481	I	FLAMMABLE LIQUID, POISON	1, A7, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	30 L	D	40
	Ethyl lactate	3	UN1192	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethyl mercaptan	3	UN2363	I	FLAMMABLE LIQUID	T21	None	201	243	Forbidden	30 L	E	95, 102
	Ethyl methacrylate	3	UN2277	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Ethyl methyl ether	2.1	UN1039		FLAMMABLE GAS	B63	None	324	314, 315	Forbidden	150 kg	B	40
	Ethyl methyl ketone *or* Methyl ethyl ketone	3	UN1193	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Ethyl nitrite solutions	3	UN1194	I	FLAMMABLE LIQUID, POISON		None	201	None	Forbidden	Forbidden	E	40, 105
	Ethyl orthoformate	3	UN2524	III	FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A	
	Ethyl oxalate	6.1	UN2525	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A	
	Ethyl perchlorate	Forbidden											
D	Ethyl phosphonothioic dichloride, anhydrous	6.1	NA2927	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	20, 40, 95
D	Ethyl phosphonous dichloride, anhydrous *pyrophoric liquid*	6.1	NA2845	I	POISON, SPONTANEOUSLY COMBUSTIBLE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	18
D	Ethyl phosphorodichloridate	6.1	NA2927	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Ethyl propionate	3	UN1195	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Ethyl propyl ether	3	UN2615	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	
	Ethyl silicate, see Tetraethyl silicate												
	Ethylacetylene, inhibited	2.1	UN2452		FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	B	40

Ethylamine	2.1	UN1036		FLAMMABLE GAS	B77	None	321	314, 315	Forbidden	150 kg	D	40	
Ethylamine, aqueous solution *with not less than 50 percent but not more than 70 percent ethylamine*	3	UN2270	II	FLAMMABLE LIQUID, CORROSIVE	T14	None	202	243	1 L	5 L	B	40	
N-Ethylaniline	6.1	UN2272	III	KEEP AWAY FROM FOOD	T2	153	203	241	60 L	220 L	A		
2-Ethylaniline	6.1	UN2273	III	KEEP AWAY FROM FOOD	T2	153	203	241	60 L	220 L	A		
Ethylbenzene	3	UN1175	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B		
N-Ethylbenzyltoluidines liquid	6.1	UN2753	III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A		
N-Ethylbenzyltoluidines solid	6.1	UN2753	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		
2-Ethylbutanol	3	UN2275	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
2-Ethylbutyl acetate	3	UN1177	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
2-Ethylbutyraldehyde	3	UN1178	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B		
Ethyldichloroarsine	6.1	UN1892	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40	
Ethyldichlorosilane	4.3	UN1183	I	DANGEROUS WHEN WET, CORROSIVE, FLAMMABLE LIQUID	A2, A3, A7, N34, T18, T26	None	201	244	Forbidden	1 L	D	21, 28, 40, 49, 100	
Ethylene, acetylene and propylene in mixtures, refrigerated liquid *with at least 71.5 percent ethylene with not more than 22.5 percent acetylene and not more than 6 percent propylene*	2.1	UN3138		FLAMMABLE GAS		None	304	314, 315	Forbidden	Forbidden	D	40	
Ethylene chlorohydrin	6.1	UN1135	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43 T45	None	227	244	Forbidden	Forbidden	D	40	
Ethylene, compressed	2.1	UN1962		FLAMMABLE GAS		306	304	302	Forbidden	150 kg	E	40	
Ethylene diamine diperchlorate	Forbidden												
Ethylene dibromide	6.1	UN1605	I	POISON	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40	
Ethylene dibromide and methyl bromide liquid mixtures see Methyl bromide and ethylene dibromide, liquid mixtures													
Ethylene dichloride	3	UN1184	II	FLAMMABLE LIQUID, POISON	T14	None	202	243	1 L	60 L	B	40	
Ethylene glycol diethyl ether	3	UN1153	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Ethylene glycol dinitrate	Forbidden												
Ethylene glycol monobutyl ether	6.1	UN2369	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A		
Ethylene glycol monoethyl ether	3	UN1171	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Ethylene glycol monoethyl ether acetate	3	UN1172	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Ethylene glycol monomethyl ether	3	UN1188	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Ethylene glycol monomethyl ether acetate	3	UN1189	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Ethylene oxide and carbon dioxide mixture *with more than 87 percent ethylene oxide*	2.3	UN3300		POISON GAS, FLAMMABLE GAS	4	None	304	314, 315	Forbidden	75 kg	D	40	
Ethylene oxide and carbon dioxide mixtures, see Carbon dioxide and ethylene oxide mixtures, *etc.*													
Ethylene oxide and carbon dioxide mixtures *with more than 9 percent but not more than 87 percent ethylene oxide*	2.1	UN1041		FLAMMABLE GAS	25	306	304	314, 315	Forbidden	25 kg	B	40	
Ethylene oxide and carbon dioxide mixtures *with not more than 9 percent ethylene oxide*	2.2	UN1952		NONFLAMMABLE GAS	25	306	304	314, 315	75 kg	150 kg	A		
Ethylene oxide and chlorotetrafluoroethane mixture *with not more than 8.8 percent ethylene oxide*	2.2	UN3297		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		
Ethylene oxide and dichlorodifluoromethane mixture, *with not more than 12.5 percent ethylene oxide*	2.2	UN3070		NONFLAMMABLE GAS	25	306	304	314, 315	75 kg	150 kg	A		
Ethylene oxide and pentafluoroethane mixture *with not more than 7.9 percent ethylene oxide*	2.2	UN3298		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		
Ethylene oxide and propylene oxide mixtures *with not more than 30 percent ethylene oxide*	3	UN2983	I	FLAMMABLE LIQUID, POISON	5, A11, N4, N34, T24, T29	None	201	243	Forbidden	30 L	E	40	
Ethylene oxide and tetrafluoroethane mixture *with not more than 5.6 percent ethylene oxide*	2.2	UN3299		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Ethylene oxide or Ethylene oxide with nitrogen up to a total pressure of 1MPa (10 bar) at 50 degrees C	2.3	UN1040		POISON GAS, FLAMMABLE GAS.	4, 25	None	323	323	Forbidden	25 kg	D	40
	Ethylene, refrigerated liquid (cryogenic liquid)	2	UN1038		FLAMMABLE GAS		None	316	318, 319	Forbidden	Forbidden	D	40
	Ethylenediamine	8	UN1604	II	CORROSIVE, FLAMMABLE LIQUID.	T14	154	202	242	1 L	30 L	A	40
	Ethylenimine, inhibited	6.1	UN1185	I	POISON, FLAMMABLE LIQUID	1, B6, B14, B30, B72, B77, N25, N32, T38, T43, T44.	None	226	244	Forbidden	Forbidden	D	40
	Ethylhexaldehyde, see Octyl aldehydes etc.												
	2-Ethylhexylamine	3	UN2276	III	FLAMMABLE LIQUID, CORROSIVE.	B1, T2	150	203	242	5 L	60 L	A	40
	2-Ethylhexylchloroformate	6.1	UN2748	II	POISON, CORROSIVE	T42	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
	Ethylphenyldichlorosilane	8	UN2435	II	CORROSIVE	A7, B2, N34, T8, T26	None	202	242	Forbidden	30 L	C	
	1-Ethylpiperidine	3	UN2386	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	
	N-Ethyltoluidines	6.1	UN2754	II	POISON	T14	None	202	243	5 L	60 L	A	
	Ethyltrichlorosilane	3	UN1196	II	FLAMMABLE LIQUID, CORROSIVE	A7, N34, T15, T26	None	202	243	1 L	5 L	B	40
	Etiologic agent, see Infectious substances, etc.)												
	Explosive articles, see Articles, explosive, n.o.s. etc.												
	Explosive, blasting, type A	1.1D	UN0081	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	5E, 5E, 21E
	Explosive, blasting, type B	1.1D	UN0082	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Explosive, blasting, type B or Agent blasting, Type B	1.5D	UN0331	II	EXPLOSIVE 1.5D	105, 106	None	62	None	Forbidden	Forbidden	B	1E, 5E
	Explosive, blasting, type C	1.1D	UN0083	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Explosive, blasting, type D	1.1D	UN0084	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Explosive, blasting, type E	1.1D	UN0241	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Explosive, blasting, type E or Agent blasting, Type E	1.5D	UN0332	II	EXPLOSIVE 1.5D	105, 106	None	62	None	Forbidden	Forbidden	B	1E, 5E
	Explosive, forbidden, See Sec. 173.54	Forbidden											
D	Explosive pest control devices	1.1E	NA0006	II	EXPLOSIVE 1.1E		None	62	None	Forbidden	Forbidden	E	
D	Explosive pest control devices	1.4E	NA0412	II	EXPLOSIVE 1.4E		None	62	None	Forbidden	75 kg	A	24E
	Explosive substances, see Substances, explosive, n.o.s. etc.												
	Explosives, slurry, see Explosive, blasting, type E												
	Explosives, water gels, see Explosive, blasting, type E												
	Extracts, aromatic, liquid	3	UN1169	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
				II	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Extracts, flavoring, liquid	3	UN1197	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Fabric with animal or vegetable oil, see Fibers or fabrics, etc.												
	Ferric arsenate	6.1	UN1606	II	POISON		None	212	242	25 kg	100 kg	A	
	Ferric arsenite	6.1	UN1607	II	POISON		None	212	242	25 kg	100 kg	A	
	Ferric chloride, anhydrous	8	UN1773	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Ferric chloride, solution	8	UN2582	III	CORROSIVE	B15, T8	154	203	241	5 L	60 L	A	
	Ferric nitrate	5.1	UN1466	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Ferrocerium	4.1	UN1323	II	FLAMMABLE SOLID	A19	151	212	240	15 kg	50 kg	A	
	Ferrosilicon, *with 30 percent or more but less than 90 percent silicon*	4.3	UN1408	III	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD.	A1, A19	None	213	240	25 kg	100 kg	A	13, 40, 85, 103
	Ferrous arsenate	6.1	UN1608	II	POISON		None	212	242	25 kg	100 kg	A	
D	Ferrous chloride, solid	8	NA1759	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
D	Ferrous chloride, solution	8	NA1760	II	CORROSIVE	B3	154	202	242	1 L	30 L	B	40
	Ferrous metal borings *or* Ferrous metal shavings *or* Ferrous metal turnings *or* Ferrous metal cuttings *in a form liable to self-heating*	4.2	UN2793	III	SPONTANEOUSLY COMBUSTIBLE.	A1, A19	None	213	241	25 kg	100 kg	A	
	Fertilizer ammoniating solution *with free ammonia*	2.2	UN1043		NONFLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
AIW	Fibers or Fabrics, animal *or* vegetable *or* Synthetic, n.o.s. *with animal or vegetable oil*	4.2	UN1373	III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	Forbidden	Forbidden	A	

	Fibers or Fabrics impregnated with weakly nitrated nitrocellulose, n o s	4 1	UN1353	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	D	
	Films, nitrocellulose base, from which gelatine has been removed, film scrap, see Celluloid scrap												
	Films, nitrocellulose base, *gelatine coated (except scrap)*	4 1	UN1324	III	FLAMMABLE SOLID		None	183	None	25 kg	100 kg	D	91
	Fire extinguisher charges, *corrosive liquid*	8	UN1774	II	CORROSIVE	N41	None	154	202	None	1 L	30 L	A	
	Fire extinguisher charges, expelling, explosive, see Cartridges, power device													
	Fire extinguishers *containing compressed or liquefied gas*	2.2	UN1044		NONFLAMMABLE GAS		None	309	309	None	75 kg	150 kg	A	
	Firelighters, solid *with flammable liquid*	4 1	UN2623	II	FLAMMABLE SOLID	A19	None	212	None	15 kg	50 kg	A	119
				III	FLAMMABLE SOLID	A1, A19	None	213	None	25 kg	100 kg	A	119
	Fireworks	1 1G	UN0333	II	EXPLOSIVE 1 1G	108	None	62	None	Forbidden	Forbidden	B	
	Fireworks	1.2G	UN0334	II	EXPLOSIVE 1 2G	108	None	62	None	Forbidden	Forbidden	B	
	Fireworks	1 3G	UN0335	II	EXPLOSIVE 1.3G	108	None	62	None	Forbidden	Forbidden	B	
	Fireworks	1 4G	UN0336	II	EXPLOSIVE 1 4G	108	None	62	None	Forbidden	75 kg	A	24E
	Fireworks	1 4S	UN0337	II	EXPLOSIVE 1 4S	108	None	62	None	25 kg	100 kg	A	
W	Fish meal, stabilized *or* Fish scrap, stabilized	9	UN2216	III	None		155	218	218	No limit	No limit	A	88
	Fish meal, unstabilized *or* Fish scrap, unstabilized	4.2	UN1374	II	SPONTANEOUSLY COMBUSTIBLE	A1, A19	None	212	241	15 kg	50 kg	A	119, 120
	Fissile radioactive materials, see Radioactive material, fissile, n o s												
	Flammable compressed gas, see Compressed *or* Liquefied gas, flammable, *etc.*												
	Flammable compressed gas (small receptacles not fitted with a dispersion device, not refillable), see Receptacles, *etc.*												
	Flammable gas in lighters, *see* Lighters for cigars *or* cigarettes, *with flammable gas*												
	Flammable liquid, toxic, corrosive, n o s	3	UN3286	I	FLAMMABLE LIQUID, POISON, CORROSIVE.		None	201	243	Forbidden	2 5 L	E	21, 40, 100
				II	FLAMMABLE LIQUID, POISON, CORROSIVE.	T14	None	202	243	1 L	5 L	B	21, 40, 100
	Flammable liquids, corrosive, n o s	3	UN2924	I	FLAMMABLE LIQUID, CORROSIVE.	T42	None	201	243	0.5 L	2 5 L	E	40
				II	FLAMMABLE LIQUID, CORROSIVE	T15, T26	None	202	243	1 L	5 L	B	40
				III	FLAMMABLE LIQUID, CORROSIVE.	B1, T15, T26	150	203	242	5 L	60 L	A	40
	Flammable liquids, n o.s	3	UN1993	I	FLAMMABLE LIQUID	T42	150	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	203	242	60 L	220 L	A	
	Flammable liquids, toxic, n o s	3	UN1992	I	FLAMMABLE LIQUID, POISON	T42	None	201	243	Forbidden	30 L	E	40
				II	FLAMMABLE LIQUID, POISON	T18	None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T18	150	203	242	60 L	220 L	A	
	Flammable solid, corrosive, inorganic, n o.s.	4 1	UN3180	II	FLAMMABLE SOLID, CORROSIVE	A1	151	212	242	15 kg	50 kg	D	40
				III	FLAMMABLE SOLID, CORROSIVE	A1	151	213	242	25 kg	100 kg	D	40
	Flammable solid, inorganic, n o.s.	4.1	UN3178	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	B	
				III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	B	
	Flammable solid, organic, molten, n o.s.	4 1	UN3176	II	FLAMMABLE SOLID	T9	151	212	240	Forbidden	Forbidden	C	
				III	FLAMMABLE SOLID	T9	151	213	240	Forbidden	Forbidden	C	
	Flammable solid, toxic, inorganic, n o.s.	4 1	UN3179	II	FLAMMABLE SOLID, POISON.	A1	151	212	242	15 kg	50 kg	B	40
				III	FLAMMABLE SOLID, KEEP AWAY FROM FOOD.	A1	151	213	242	25 kg	100 kg	B	40
	Flammable solids, corrosive, organic, n o.s	4 1	UN2925	II	FLAMMABLE SOLID, CORROSIVE.	A1	None	212	242	15 kg	50 kg	D	40
				III	FLAMMABLE SOLID, CORROSIVE	A1	151	213	242	25 kg	100 kg	D	40
	Flammable solids, organic, n o s.	4.1	UN1325	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	B	
				III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	B	
	Flammable solids, toxic, organic, n.o.s	4.1	UN2926	II	FLAMMABLE SOLID, POISON	A1	None	212	242	15 kg	50 kg	B	40
				III	FLAMMABLE SOLID, KEEP AWAY FROM FOOD	A1	151	213	242	25 kg	100 kg	B	40
	Flares, aerial	1.3G	UN0093	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Flares, aerial	1 4G	UN0403	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Flares, aerial	1.4S	UN0404	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Flares, aerial	1 1G	UN0420	II	EXPLOSIVE 1 1G		None	62	None	Forbidden	Forbidden	B	
	Flares, aerial	1.2G	UN0421	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
	Flares, airplane, see Flares, aerial												

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or railcar (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Flares, signal, see Cartridges, signal												
	Flares, surface	1.3G	UN0092	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Flares, surface	1.1G	UN0418	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Flares, surface	1.2G	UN0419	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
	Flares, water-activated, see Contrivances, water-activated, etc.												
	Flash powder	1.1G	UN0094	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	E	1E, 5E
	Flash powder	1.3G	UN0305	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	E	1E, 5E
	Flue dust, poisonous, see Arsenical dust.												
	Fluoric acid, see Hydrofluoric acid, solution, etc.												
	Fluorine, compressed	2.3	UN1045		POISON GAS, OXIDIZER, CORROSIVE		None	302	None	Forbidden	Forbidden	D	40, 89, 90
	Fluoroacetic acid	6.1	UN2642	I	POISON		None	211	242	1 kg	15 kg	E	
	Fluoroanilines	6.1	UN2941	III	KEEP AWAY FROM FOOD	T6	153	203	241	60 L	220 L	A	
	Fluorobenzene	3	UN2387	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Fluoroboric acid	8	UN1775	II	CORROSIVE	A6, A7, B2, B15, N3, N34, T15, T27	154	202	242	1 L	30 L	A	
	Fluorophosphoric acid anhydrous	8	UN1776	II	CORROSIVE	A6, A7, B2, N3, N34, T9, T27	None	202	242	1 L	30 L	A	
	Fluorosilicates, n.o.s.	6.1	UN2856	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	28
	Fluorosilicic acid	8	UN1778	II	CORROSIVE	A6, A7, B2, B15, N3, N34, T12, T27	None	202	242	1 L	30 L	A	
	Fluorosulfonic acid	8	UN1777	I	CORROSIVE	A3, A6, A7, A10, B6, B10, B41, N3, T9, T27	None	201	243	0.5 L	2.5 L	D	40
	Fluorotoluenes	3	UN2388	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Forbidden materials: See 173.21												
	Formaldehyde, solutions, flammable	3	UN1198	III	FLAMMABLE LIQUID, CORROSIVE	B1, T8	150	203	242	1 L	60 L	A	40
	Formaldehyde, solutions, *with not less than 25 percent formaldehyde*	8	UN2209	III	CORROSIVE	T1	154	203	241	5 L	60 L	A	
	Formalin, see Formaldehyde, solutions												
	Formic acid	8	UN1779	II	CORROSIVE	B2, B12, B28, T8	154	202	242	1 L	30 L	A	40
	Fracturing devices, explosive, *without detonators for oil wells*	1.1D	UN0099	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Fuel, aviation, turbine engine	3	UN1863	I	FLAMMABLE LIQUID	T7	150	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
D	Fuel oil (No. 1, 2, 4, 5, or 6)	3	NA1993	III	FLAMMABLE LIQUID	B1	150	203	242	60 L	220 L	A	
	Fulminate of mercury, dry	Forbidden											
	Fulminate of mercury, wet, see Mercury fulminate, etc.												
	Fulminating gold	Forbidden											
	Fulminating mercury	Forbidden											
	Fulminating platinum	Forbidden											
	Fulminating silver	Forbidden											
	Fulminic acid	Forbidden											
	Furanyl chloride	8	UN1780	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	E	8, 40
	Furan	3	UN2389	I	FLAMMABLE LIQUID	T18	None	201	243	1 L	30 L	E	40
	Furfural	3	UN1199	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Furfuryl alcohol	6.1	UN2874	III	KEEP AWAY FROM FOOD	T2	153	203	241	60 L	220 L	A	28, 74
	Furfurylamine	8	UN2526	III	FLAMMABLE LIQUID, CORROSIVE	B1, T1	150	203	242	5 L	60 L	A	40
	Fuse, detonating, *metal clad, see* Cord, detonating, *metal clad*												
	Fuse, detonating, mild effect, *metal clad, see* Cord, detonating, mild effect, *metal clad*												
	Fuse, igniter tubular *metal clad*	1.4G	UN0103	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Fuse, instantaneous, non-detonating or Quickmatch	1.3G	UN0101	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
	Fuse, safety	1.4S	UN0105	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
D	Fusee (railway or highway)	4.1	NA1325	II	FLAMMABLE SOLID		None	184	None	15 kg	50 kg	B	
	Fusel oil	3	UN1201	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Fuses, rocket, See Tracers for ammunition												

	Fuzes, combination, percussion and time, see Fuzes, detonating *(UN 0257, UN 0367)*, Fuzes, igniting (UN 0317, UN 0368)												
	Fuzes, detonating	1.1B	UN0106	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Fuzes, detonating	1.2B	UN0107	II	EXPLOSIVE 1.2B		None	62	None	Forbidden	Forbidden	B	2E, 6E
	Fuzes, detonating	1.4B	UN0257	II	EXPLOSIVE 1.4B	116	None	62	None	Forbidden	75 kg	A	24E
	Fuzes, detonating	1.4S	UN0367	II	EXPLOSIVE 1.4S	116	None	62	None	25 kg	100 kg	A	
	Fuzes, detonating, *with protective features*	1.1D	UN0408	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Fuzes, detonating, *with protective features*	1.2D	UN0409	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	
	Fuzes, detonating, *with protective features*	1.4D	UN0410	II	EXPLOSIVE 1.4D	116	None	62	None	Forbidden	75 kg	A	24E
	Fuzes, igniting	1.3G	UN0316	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
	Fuzes, igniting	1.4G	UN0317	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Fuzes, igniting	1.4S	UN0368	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Galactsan trinitrate	Forbidden											
AW	Gallium	8	UN2803	III	CORROSIVE		None	162	240	20 kg	20 kg	B	48
D	Gas generator assemblies (aircraft), *containing a non-flammable non-toxic gas and a propellant cartridge*	2.2			NONFLAMMABLE GAS		None	335	None	75 kg	150 kg	A	
	Gas identification set	2.3	NA9035		POISON GAS	6	None	194	None	Forbidden	Forbidden	D	
	Gas oil *or* Diesel fuel *or* Heating oil, light	3	UN1202	III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Gas, refrigerated liquid, n.o.s.	2.2	UN3158		NONFLAMMABLE GAS		306	304	314, 315	50 kg	500 kg	D	
	Gas sample, non-pressurized, flammable, n.o.s., *not refrigerated liquid*	2.1	UN3167		FLAMMABLE GAS	35	306	302, 304	None	1 L	5 L	D	
	Gas sample, non-pressurized, toxic, flammable, n.o.s., *not refrigerated liquid*	2.3	UN3168		POISON GAS, FLAMMABLE GAS	35	306	302	None	Forbidden	1 L	D	
	Gas sample, non-pressurized, toxic, n.o.s., *not refrigerated liquid*	2.3	UN3169		POISON GAS	35	306	302, 304	None	Forbidden	1 L	D	
D	Gasohol *gasoline mixed with ethyl alcohol, with not more than 20 percent alcohol*	3	NA1203	II	FLAMMABLE LIQUID		150	202	242	5 L	60 L	E	
	Gasoline	3	UN1203	II	FLAMMABLE LIQUID	B33, T8	150	202	242	5 L	60 L	E	
	Gasoline, casinghead, see Natural gasoline												
	Gelatine, blasting, see Explosive, blasting, type A												
	Gelatine dynamites, see Explosive, blasting, type A												
	Germane	2.3	UN2192		POISON GAS, FLAMMABLE GAS	2, 25	None	192	245	Forbidden	Forbidden	D	40
	Glycerol-1,3-dinitrate	Forbidden											
	Glycerol gluconate trinitrate	Forbidden											
	Glycerol lactate trinitrate	Forbidden											
	Glycerol alpha-monochlorohydrin	6.1	UN2689	III	KEEP AWAY FROM FOOD	T2	153	203	241	60 L	220 L	A	
	Glyceryl trinitrate, see Nitroglycerin, *etc*												
	Glycidaldehyde	3	UN2622	II	FLAMMABLE LIQUID, POISON	T8	150	202	243	1 L	60 L	A	40
D	Grenades, empty primed	1.4S	NA0349	II	None		None	62	None	25 kg	100 kg	A	
	Grenades, *hand or rifle, with bursting charge*	1.1D	UN0284	II	EXPLOSIVE 1.1D			62	None	Forbidden	Forbidden	B	
	Grenades, *hand or rifle, with bursting charge*	1.2D	UN0285	II	EXPLOSIVE 1.2D			62	None	Forbidden	Forbidden	B	
	Grenades, *hand or rifle, with bursting charge*	1.1F	UN0292	II	EXPLOSIVE 1.1F			62	None	Forbidden	Forbidden	E	
	Grenades, *hand or rifle, with bursting charge*	1.2F	UN0293	II	EXPLOSIVE 1.2F			62	None	Forbidden	Forbidden	E	
	Grenades, illuminating, see Ammunition, illuminating, *etc*												
	Grenades, practice, *hand or rifle*	1.4S	UN0110	II	EXPLOSIVE 1.4S			62	None	25 kg	100 kg	A	
	Grenades, practice, *hand or rifle*	1.3G	UN0318	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B	
	Grenades, practice, *hand or rifle*	1.2G	UN0372	II	EXPLOSIVE 1.2G			62	None	Forbidden	Forbidden	B	
	Grenades practice Hand *or rifle*	1.4G	UN0452	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A	24E
	Grenades, smoke, see Ammunition, smoke, *etc.*												
	Guanidine nitrate	5.1	UN1467	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	73
	Guanyl nitrosaminoguanylidene hydrazine (dry)	Forbidden											
	Guanyl nitrosaminoguanylidene hydrazine, wetted *with not less than 30 percent water, by mass*	1.1A	UN0113	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Guanyl nitrosaminoguanyltetrazene (dry)	Forbidden											
	Guanyl nitrosaminoguanyltetrazene, wetted *or* Tetrazene, wetted *with not less than 30 percent water or mixture of alcohol and water, by mass*	1.1A	UN0114	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Gunpowder, *compressed or* Gunpowder *in pellets, see* Black powder *(UN 0028)*												
	Gunpowder, *granular or as a meal, see* Black powder *(UN 0027)*												
	Hafnium powder, dry	4.2	UN2545	I	SPONTANEOUSLY COMBUSTIBLE		None	211	242	Forbidden	Forbidden	D	
				II	SPONTANEOUSLY COMBUSTIBLE	A19, A20, N34	None	212	241	15 kg	50 kg	D	
				III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	25 kg	100 kg	D	
	Hafnium powder, wetted *with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns, (b) chemically produced, particle size less than 840 microns*	4.1	UN1326	II	FLAMMABLE SOLID	A6, A19, A20, N34	None	212	241	15 kg	50 kg	E	
	Halogenated irritating liquids, n.o.s.	6.1	UN1610	I	POISON	T42	None	201	243	Forbidden	Forbidden	D	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.*) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or rail car	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
				II	POISON	T14	None	202	243	5 L	60 L	D	40
				III	KEEP AWAY FROM FOOD.	T14	150	203	241	60 L	220 L	B	40
	Hand signal device, see Signal devices, hand												
	Hazardous substances, liquid or solid, n.o.s.; see Environmentally hazardous substances, etc.												
	Hazardous waste, liquid, n.o.s.	9	NA3082	III	CLASS 9		155	203	241	No limit	No limit	A	
D	Hazardous waste, liquid, n.o.s.	9	NA3077	III	CLASS 9	B53	155	213	240	No limit	No limit	A	
D	Hazardous waste, solid, n.o.s.	9	UN3077	III	CLASS 9		306	202	302, 314, 315	75 kg	150 kg	A	65
	Helium, compressed	2.2	UN1046		NONFLAMMABLE GAS								
	Helium-oxygen mixture, see Rare gases and oxygen mixtures												
	Helium, refrigerated liquid *(cryogenic liquid)*	2.2	UN1963		NONFLAMMABLE GAS		320	318	318	50 kg	500 kg	B	
	Heptafluoropropane	2.2	UN3296		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	n-Heptaldehyde	3	UN3056	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Heptanes	3	UN1206	II	FLAMMABLE LIQUID	T2	150	202	242	5 L	60 L	B	
	n-Heptene	3	UN2278	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Hexachloroacetone	6.1	UN2661	III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	B	12, 40
	Hexachlorobenzene	6.1	UN2729	III	KEEP AWAY FROM FOOD.		153	203	241	60 L	220 L	A	
	Hexachlorobutadiene	6.1	UN2279	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	40
	Hexachlorocyclopentadiene	6.1	UN2646	I	POISON	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	Hexachlorophene	6.1	UN2875	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Hexadecyltrichlorosilane	8	UN1781	II	CORROSIVE	A7, B2, B6, N34, T8	None	202	242	Forbidden	30 L	C	40
	Hexadienes	3	UN2458	II	FLAMMABLE LIQUID	T7	None	202	242	5 L	60 L	B	
	Hexaethyl tetraphosphate and compressed gas mixtures	2.3	UN1612		POISON GAS	2	None	334	None	Forbidden	Forbidden	D	40
	Hexaethyl tetraphosphate *liquid*	6.1	UN1611	I	POISON	A4	None	201	243	1 L	30 L	Separate	40
				II	POISON	N78	None	202	242	5 L	60 L	Separate	40
				III	KEEP AWAY FROM FOOD.	N77	None	203	241	60 L	220 L	Separate	40
	Hexaethyl tetraphosphate, *solid*	6.1	UN1611	I	POISON		None	211	242	Forbidden	15 kg	E	40
				II	POISON	N78	None	212	242	25 kg	100 kg	Separate	40
				III	KEEP AWAY FROM FOOD.	N77	153	213	240	100 kg	200 kg	Separate	40
	Hexafluoroacetone	2.3	UN2420		POISON GAS, CORROSIVE.	2, B9, B14	None	304	314, 315	Forbidden	25 kg	D	40
	Hexafluoroacetone hydrate	6.1	UN2552	II	POISON	T14	None	203	243	5 L	60 L	B	40
	Hexafluoroethane, *R116*	2.2	UN2193		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Hexafluoropropionic acid	8	UN1782	II	CORROSIVE	A6, A7, B2, N3, N34, T9, T27	None	202	242	1 L	30 L	A	
D	Hexafluoropropylene oxide	2.2	NA1858		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Hexafluoropropylene, *R1216*	2.2	UN1858		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Hexaldehyde	3	UN1207	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Hexamethylene diisocyanate	6.1	UN2281	II	POISON	T14	None	202	242	5 L	60 L	B	13, 40
	Hexamethylene triperoxide diamine *(dry)*	Forbidden											
	Hexamethylenediamine, solid	8	UN2280	III	CORROSIVE		154	213	240	25 kg	100 kg	A	12
	Hexamethylenediamine solution	8	UN1783	II	CORROSIVE	T8	None	202	242	1 L	30 L	A	
		8	UN2280	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Hexamethyleneimine	3	UN2493	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	242	1 L	5 L	B	40
	Hexamethylenetetramine	4.1	UN1328	III	FLAMMABLE SOLID	A1	154	213	240	25 kg	100 kg	A	
	Hexamethyl benzene hexanitrate	Forbidden											
	Hexanes	3	UN1208	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	
	2,2',4,4',6,6'-Hexanitro-3,3'-dihydroxyazobenzene (dry)	Forbidden											

Hexanitroazoxy benzene		Forbidden													
N,N'-(hexanitrodiphenyl) ethylene dinitramine (dry)		Forbidden													
Hexanitrodiphenyl urea		Forbidden													
2,2',3',4,4',6-Hexanitrodiphenylamine		Forbidden													
Hexanitrodiphenylamine *or* Dipicrylamine *or* Hexyl		1.1D	UN0079	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		1E, 5E	
2,2',4,4',6,6'-Hexanitrodiphenylether		Forbidden													
Hexanitroethane		Forbidden													
Hexanitrooxanilide		Forbidden													
Hexanitrostilbene		1.1D	UN0392	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		1E, 5F	
Hexanoic acid, see Corrosive liquids, n.o.s.															
Hexanols		3	UN2282	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
1-Hexene		3	UN2370	II	FLAMMABLE LIQUID	T6	150	202	242	5 L	60 L	E			
Hexogen and cyclotetramethylenetetranitramine mixtures, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*															
Hexogen *and* HMX mixtures, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*															
Hexogen and octogen mixtures, wetted *or* desensitized ***see*** RDX and HMX mixtures, wetted *or* desensitized *etc.*															
Hexogen, *see* Cyclotrimethylenetrinitramine, *etc.*															
Hexolite, *or* Hexotol *dry or wetted with less than 15 percent water, by mass*		1.1D	UN0118	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		1E, 5F	
Hexotonal		1.1D	UN0393	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B		1E, 5F	
Hexyl, *see* Hexanitrodiphenylamine															
Hexyltrichlorosilane		8	UN1784	II	CORROSIVE	A7, B2, B6, N34, T8, T26.	None	202	242	Forbidden	30 L	C		40	
High explosives, see individual explosives' entries															
HMX, ***see*** Cyclotetramethylenetetranitramine, *etc.*															
Hydrazine, anhydrous *or* Hydrazine aqueous solutions *with more than 64 percent hydrazine, by mass*		8	UN2029	I	CORROSIVE, FLAMMABLE LIQUID, POISON	A3, A6, A7, A10, B16, B53, T25	None	201	243	Forbidden	2.5 L	D		21, 40, 42, 100	
Hydrazine, aqueous solution *with not more than 37 percent hydrazine, by mass*		6.1	UN3293	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A			
Hydrazine azide		Forbidden													
Hydrazine chlorate		Forbidden													
Hydrazine dicarbonic acid diazide		Forbidden													
Hydrazine hydrate *or* Hydrazine aqueous solutions, *with not less than 37 percent but not more than 64 percent hydrazine, by mass*		8	UN2030	II	CORROSIVE, POISON	B16, B53, T15	None	202	243	Forbidden	30 L	D		40, 42, 82	
Hydrazine perchlorate		Forbidden													
Hydrazine selenate		Forbidden													
Hydriodic acid, anhydrous, see Hydrogen iodide, anhydrous															
Hydriodic acid, solution		8	UN1787	II	CORROSIVE	A3, A6, B2, N41, T9, T27	154	202	242	1 L	30 L	C			
				III	CORROSIVE	T8, T26	154	203	241	5 L	60 L	C		6	
Hydrobromic acid, anhydrous, see Hydrogen bromide, anhydrous															
Hydrobromic acid solution, *with more than 49 percent hydrobromic acid*		8	UN1788	II	CORROSIVE	B2, B15, N41, T9, T27	154	202	242	Forbidden	Forbidden	C			
				III	CORROSIVE	T8, T26	154	203	241	Forbidden	Forbidden	C		6	
Hydrobromic acid solution, *with not more than 49 percent hydrobromic acid*		8	UN1788	II	CORROSIVE	A3, A6, B2, B15, N41, T9, T27	154	202	242	1 L	30 L	C			
				III	CORROSIVE	T8, T26	154	203	241	5 L	30 L	C		6	
Hydrocarbon gases, compressed, n.o.s. *or* Hydrocarbon gases mixtures, compressed, n.o.s.		2.1	UN1964		FLAMMABLE GAS		306	302	314, 315	Forbidden	150 kg	E		40	
Hydrocarbon gases, liquefied n.o.s. *or* Hydrocarbon gases mixtures, liquefied, n.o.s.		2.1	UN1965		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E		40	
Hydrocarbons, liquid, n.o.s.		3	UN3295	I	FLAMMABLE LIQUID		150	201	243	1 L	30 L	E			
				II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B			
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
Hydrochloric acid, anhydrous, see Hydrogen chloride, anhydrous															
Hydrochloric acid, solution		8	UN1789	II	CORROSIVE	A3, A6, B3, B15, N41, T9, T27	154	202	242	1 L	30 L	C			
				III	CORROSIVE	T8, T26	154	203	241	5 L	60 L	C		6	
Hydrocyanic acid, anhydrous, see Hydrogen cyanide *etc.*															
Hydrocyanic acid, aqueous solutions *or* Hydrogen cyanide, aqueous solutions *with not more than 20 percent hydrocyanic acid*		6.1	UN1613	I	POISON	2, B12, B51, B55, B77, B82.	None	195	244	Forbidden	Forbidden	D		40	
D Hydrocyanic acid, aqueous solutions *with less than 5 percent hydrocyanic acid*		6.1	NA1613	II	POISON	B12, T18, T26	None	195	243	Forbidden	5 L	D		40	
Hydrocyanic acid, liquefied, see Hydrogen cyanide, *etc.*															
Hydrocyanic acid (prussic), unstabilized		Forbidden													
Hydrofluoric acid and Sulfuric acid mixtures		8	UN1786	I	CORROSIVE, POISON	A6, A7, B15, B23, N5, N34, T18, T27	None	201	243	Forbidden	2.5 L	D		40, 85	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.—) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or rail car	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Hydrofluoric acid, anhydrous, see Hydrogen fluoride, anhydrous												
	Hydrofluoric acid, solution, *with more than 60 percent strength*	8	UN1790	I	CORROSIVE, POISON	A6, A7, B4, B12, B15, B23, N5, N34, T18, T27	None	201	243	0.5 L	2.5 L	D	12, 40
	Hydrofluoric acid, solution, *with more than 60 percent strength*	8	UN1790	II	CORROSIVE POISON	A6, A7, B12, B15, N5, N34, T18, T27	None	202	243	1 L	30 L	D	12, 40
	Hydrofluoroboric acid, see Fluoboric acid												
	Hydrofluorosilicic acid, see Fluorosilicic acid												
	Hydrogen and Methane mixtures, compressed	2.1	UN2034		FLAMMABLE GAS		306	302	302, 314, 315	Forbidden	150 kg	E	40
	Hydrogen bromide, anhydrous	2.3	UN1048		POISON GAS, CORROSIVE	3, B14	None	304	314, 315	Forbidden	25 kg	D	40
	Hydrogen chloride, anhydrous	2.3	UN1050		POISON GAS, CORROSIVE	3	None	304	None	Forbidden	Forbidden	D	40
	Hydrogen chloride, refrigerated liquid	2.3	UN2186		POISON GAS, CORROSIVE	3, B6, B43	None	None	314, 315	Forbidden	Forbidden	B	40
	Hydrogen, compressed	2.1	UN1049		FLAMMABLE GAS		306	302	302, 314, 315	Forbidden	150 kg	E	40, 57
	Hydrogen cyanide, anhydrous, stabilized *with less than 3 percent water*	6.1	UN1051	II	POISON, FLAMMABLE LIQUID	1, B12, B35, B61, B65, B77, B82	None	195	244	Forbidden	Forbidden	D	40
	Hydrogen cyanide, solution in alcohol *with not more than 45 percent hydrogen cyanide*	6.1	UN3294	I	POISON	T18, T28	None	201	243	Forbidden	Forbidden	D	40
	Hydrogen cyanide, stabilized, *with less than 3 percent water and absorbed in a porous inert material*	6.1	UN1614	I	POISON	5	None	195	None	Forbidden	Forbidden	D	25, 40
	Hydrogen fluoride, anhydrous	8	UN1052	I	CORROSIVE, POISON	3, B7, B12, B46, B71, B77, T24, T27	None	163	243	Forbidden	Forbidden	D	40
	Hydrogen iodide, anhydrous	2.3	UN2197		POISON GAS	3, 25, B14	None	304	314, 315	Forbidden	Forbidden	D	40
	Hydrogen iodide solution, see Hydriodic acid solution												
	Hydrogen peroxide and peroxyacetic acid mixtures, stabilized *with acids, water and not more than 5 percent peroxyacetic acid*	5.1	UN3149	II	OXIDIZER, CORROSIVE	A2, A3, A6, B12, B53, T14	None	202	243	1 L	5 L	D	25, 66, 75, 106
	Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary)*	5.1	UN2014	II	OXIDIZER, CORROSIVE	12, A3, A6, B12, B53, B80, B81, B85, T14, T37	None	202	243	Forbidden	Forbidden	D	25, 66, 75, 106
	Hydrogen peroxide, aqueous solutions *with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary)*	5.1	UN2984	III	OXIDIZER	17, A1, T8, T37	152	203	241	2.5 L	30 L	B	25, 75, 106
	Hydrogen peroxide, aqueous solutions *with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)*	5.1	UN2014	II	OXIDIZER, CORROSIVE	A2, A3, A6, B12, B53, T14, T37	None	202	243	1 L	5 L	D	25, 66, 75, 106
	Hydrogen peroxide, stabilized or Hydrogen peroxide aqueous solutions, stabilized *with more than 60 percent hydrogen peroxide*	5.1	UN2015	I	OXIDIZER, CORROSIVE	12, A3, A6, B12, B53, B80, B81, B85, T15, T37	None	201	243	Forbidden	Forbidden	D	25, 66, 75, 106
	Hydrogen, refrigerated liquid *(cryogenic liquid)*	2.1	UN1966		FLAMMABLE GAS		None	318	318, 319	Forbidden	Forbidden	D	40
	Hydrogen selenide, anhydrous	2.3	UN2202		POISON GAS, FLAMMABLE GAS	3	None	192	245	Forbidden	Forbidden	D	40
	Hydrogen sulfate, see Sulfuric acid												
	Hydrogen sulfide, liquefied	2.3	UN1053		POISON GAS, FLAMMABLE GAS	2, B9, B14	None	304	314, 315	Forbidden	Forbidden	D	40
	Hydrogendifluorides, n.o.s. *solid*	8	UN1740	II	CORROSIVE	N3, N34	None	212	240	15 kg	50 kg	A	25, 26, 40
		8	UN1740	III	CORROSIVE	N3, N34	154	213	240	25 kg	100 kg	A	25, 26, 40
	Hydrogendifluorides, n.o.s., solutions	8	UN1740	II	CORROSIVE	N3, N34	None	202	242	1 L	30 L	A	25, 26, 40
		8	UN1740	III	CORROSIVE	N3, N34	154	203	241	5 L	60 L	A	25, 26, 40
	Hydroquinone	6.1	UN2662	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Hydrosilicofluoric acid, see Fluorosilicic acid												
	Hydroxyl amine iodide	Forbidden											
	Hydroxylamine sulfate	8	UN2865	III	CORROSIVE		154	213	240	25 kg	100 kg	A	

Hypochlorite solutions *with more than 5 percent but less than 16 percent available chlorine*	8	UN1791	III	CORROSIVE	N34, T7	154	203	241	5 L	60 L	B	26
Hypochlorite solutions *with 16 percent or more available chlorine*	8	UN1791	II	CORROSIVE	A7, B2, B15, N34, T7	154	202	242	1 L	30 L	B	26
Hypochlorites, inorganic, n o s	5.1	UN3212	II	OXIDIZER		152	212	240	5 kg	25 kg	D	48, 56, 58, 69, 106, 116, 118
Hyponitrous acid	Forbidden											
Igniter fuse, metal clad, see Fuse, igniter, tubular, metal clad												
Igniters	1.1G	UN0121	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
Igniters	1.2G	UN0314	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
Igniters	1.3G	UN0315	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	A	
Igniters	1.4G	UN0325	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
Igniters	1.4S	UN0454	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
3,3'-Iminodipropylamine	8	UN2269	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	
Infectious substances, affecting animals *only*	6.2	UN2900		INFECTIOUS SUBSTANCE		195	196	None	50 mL or 50 g	4 L or 4 kg	B	
Infectious substances, affecting humans	6.2	UN2814		INFECTIOUS SUBSTANCE.		196	196	None	50 mL or 50 g	4 L or 4 kg	B	
Inflammable, see Flammable												
Initiating explosives (dry)	Forbidden											
Inositol hexanitrate (dry)	Forbidden											
Insecticide gases *flammable* n o.s	2.1	UN1968		FLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	D	
Insecticide gases, n.o.s.	2.2	UN1968		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
Insecticide gases, toxic, n o s	2.3	UN1967		POISON GAS	3	None	193, 334	245	Forbidden	Forbidden	D	40
Inulin trinitrate (dry)	Forbidden											
Iodine azide (dry)	Forbidden											
Iodine monochloride	8	UN1792	II	CORROSIVE	B6, N41, T8, T26	None	212	240	Forbidden	50 kg	D	40, 66, 74, 89, 90
Iodine pentafluoride	5.1	UN2495	I	OXIDIZER, POISON, CORROSIVE		None	205	243	Forbidden	2.5 L	D	25, 40, 66, 90
2-Iodobutane	3	UN2390	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
Iodomethylpropanes	3	UN2391	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
Iodopropanes	3	UN2392	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	
Iodoxy compounds (dry)	Forbidden											
Iridium nitrilopentamine iridium nitrate	Forbidden											
Iron chloride, see Ferric chloride												
Iron oxide, spent, *or* Iron sponge, spent *obtained from coal gas purification*	4.2	UN1376	III	SPONTANEOUSLY COMBUSTIBLE.	B18	None	213	240	Forbidden	Forbidden	E	
Iron pentacarbonyl	6.1	UN1994	I	POISON, FLAMMABLE LIQUID.	1, B9, B14, B30, B72, B77, T38, T43, T44.	None	192	244	Forbidden	Forbidden	D	40
Iron sesquichloride, see Ferric chloride												
Irritating material, see Tear gas substances, *etc.*												
Isobutane *or* Isobutane mixtures *see also* Petroleum gases, liquefied	2.1	UN1969		FLAMMABLE GAS	19	306	304	314, 315	Forbidden	150 kg	E	40
Isobutanol *or* Isobutyl alcohol	3	UN1212	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Isobutyl acetate	3	UN1213	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
Isobutyl acrylate	3	UN2527	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Isobutyl alcohol, *see* Isobutanol												
Isobutyl aldehyde, *see* Isobutyraldehyde												
D Isobutyl chloroformate	6.1	NA2742	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	1 L	30 L	A	12, 13, 22, 25, 40, 48, 100
Isobutyl formate	3	UN2393	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
Isobutyl isobutyrate	3	UN2528	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
+ Isobutyl isocyanate	3	UN2486	II	FLAMMABLE LIQUID, POISON.	1, B9, B14, B30, B72, T38, T43, T44.	None	225	244	1 L	60 L	D	40
Isobutyl methacrylate	3	UN2283	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Isobutyl propionate	3	UN2394	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	B	
Isobutylamine	3	UN1214	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	40
Isobutylene *see also* Petroleum gases, liquefied	2.1	UN1055		FLAMMABLE GAS	19	306	304	314, 315	Forbidden	150 kg	E	40
Isobutyraldehyde *or* Isobutyl aldehyde	3	UN2045	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	40
Isobutyric acid	3	UN2529	III	FLAMMABLE LIQUID, CORROSIVE	B1, T1	150	203	242	5 L	60 L	A	
Isobutyric anhydride	3	UN2530	III	FLAMMABLE LIQUID, CORROSIVE.	B1, T1	150	203	242	5 L	60 L	A	
Isobutyronitrile	3	UN2284	II	FLAMMABLE LIQUID, POISON	T17	None	202	243	1 L	60 L	E	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Isobutyryt chloride	3	UN2395	II	FLAMMABLE LIQUID, CORROSIVE.	T9, T26	None	202	243	1 L	5 L	C	40
	Isocyanates, flammable, toxic, n.o.s. or Isocyanate solutions, flammable, toxic, n.o.s., flashpoint less than 23 degrees C	3	UN2478	II	FLAMMABLE LIQUID, POISON.	5, A5, A7, T16	None	202	243	1 L	60 L	D	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1, T8	150	203	242	60 L	220 L	A	
	Isocyanates, toxic, flammable, n.o.s. or Isocyanate solutions, toxic, flammable, n.o.s., flash point not less than 23 degrees C but not more than 61 degrees C and boiling point less than 300 degrees C	6.1	UN3080	II	POISON, FLAMMABLE LIQUID.	T16	None	202	243	5 L	60 L	D	25, 40, 48
	Isocyanates, toxic, n.o.s. or Isocyanate, toxic, solutions, n.o.s., flash point more than 61 degrees C and boiling point less than 300 degrees C	6.1	UN2206	II	POISON.	T15	None	202	243	5 L	60 L	D	25, 40, 48
				III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	D	25, 40, 48
	Isocyanatobenzotrifluorides	6.1	UN2285	II	POISON.	5, T14	None	202	243	5 L	60 L	B	25, 40, 48
	Isoheptenes	3	UN2287	II	FLAMMABLE LIQUID.	T7	150	202	242	5 L	60 L	B	
	Isohexenes	3	UN2288	II	FLAMMABLE LIQUID.	T7	150	202	242	5 L	60 L	B	
	Isooctane, see Octanes												
	Isooctenes	3	UN1216	II	FLAMMABLE LIQUID.	T8	150	202	242	5 L	60 L	B	
	Isopentane, see n-Pentane												
	Isopentanoic acid, see Corrosive liquids, n.o.s.												
	Isopentenes	3	UN2371	II	FLAMMABLE LIQUID.	T20	150	201	243	1 L	30 L	E	
	Isophorone diisocyanate	6.1	UN2290	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	B	40
	Isopropenylamine	6	UN2289	III	CORROSIVE.	T8	154	203	241	5 L	60 L	A	
	Isoprene, inhibited	3	UN1218	I	FLAMMABLE LIQUID.	T20	150	201	243	1 L	30 L	E	
	Isopropanol or Isopropyl alcohol	3	UN1219	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
	Isopropenyl acetate	3	UN2403	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
	Isopropenylbenzene	3	UN2303	III	FLAMMABLE LIQUID.	B1, T1	150	203	242	60 L	220 L	A	
	Isopropyl acetate	3	UN1220	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
	Isopropyl acid phosphate	8	UN1793	III	CORROSIVE.	T7	154	213	240	25 kg	100 kg	A	
	Isopropyl alcohol, *see* Isopropanol												
	Isopropyl butyrate	3	UN2405	III	FLAMMABLE LIQUID.	B1, T1	150	203	242	60 L	220 L	A	
	Isopropyl chloroacetate	3	UN2947	III	FLAMMABLE LIQUID.	B1, T1	150	203	242	60 L	220 L	A	
	Isopropyl chloroformate	6.1	UN2407	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	Forbidden	B	40
	Isopropyl-2-chloropropionate	3	UN2934	III	FLAMMABLE LIQUID.	B1, T1	150	203	242	60 L	220 L	A	
	Isopropyl isobutyrate	3	UN2406	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
+	Isopropyl isocyanate	3	UN2483	I	FLAMMABLE LIQUID, POISON.	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	30 L	D	40
	Isopropyl mercaptan, see Propanethiols												
	Isopropyl nitrate	3	UN1222	II	FLAMMABLE LIQUID.	T25	150	202	None	5 L	60 L	D	
	Isopropyl phosphoric acid, see Isopropyl acid phosphate												
	Isopropyl propionate	3	UN2409	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
	Isopropylamine	3	UN1221	I	FLAMMABLE LIQUID, CORROSIVE.	T20	None	201	243	0.5 L	2 L	E	
	Isopropylbenzene	3	UN1918	III	FLAMMABLE LIQUID.	B1, T1	150	203	242	60 L	220 L	A	
	Isopropylcumyl hydroperoxide, with more than 72 percent in solution	Forbidden											
	Isosorbide dinitrate mixture, with not less than 60 percent lactose, mannose, starch or calcium hydrogen phosphate	4.1	UN2907	II	FLAMMABLE SOLID.		None	212	None	15 kg	50 kg	E	
	Isosorbide-5-mononitrate	4.1	UN3251	III	FLAMMABLE SOLID.		151	213	240	Forbidden	Forbidden	D	12
	Isothiocyanic acid	Forbidden											
	Jet Fuel, see Fuel aviation, turbine engine												
D	Jet perforating guns, charged, oil well, without detonator	1.4D	NA0124	II	EXPLOSIVE 1.4D.	L14	None	62	None	Forbidden	Forbidden	A	24E
	Jet perforating guns, charged, oil well, without detonator	1.1D	UN0124	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Jet perforating guns, charged, oil well, without detonator	1.4D	UN0494	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	300 kg	A	24E
	Jet perforators, see Charges, shaped, commercial, etc.												
	Jet tappers, without detonator, see Charges, shaped commercial, etc.												
	Jet thrust igniters, for rocket motors or Jato, see Igniters												

	Jet thrust unit (Jato), see Rocket motors																
	Kerosene	3	UN1223	III	FLAMMABLE LIQUID	B1, T1		150	203	242	60 L	220 L	A				
	Ketones, liquid, n.o.s.	3	UN1224	I	FLAMMABLE LIQUID	T8, T31		None	201	243	1 L	30 L	E				
				II	FLAMMABLE LIQUID	T8, T31		150	202	242	5 L	60 L	B				
				III	FLAMMABLE LIQUID	B1, T7, T30		150	203	242	60 L	220 L	A				
	Krypton, compressed	2.2	UN1056		NONFLAMMABLE GAS			306	302	None	75 kg	150 kg	A				
	Krypton, refrigerated liquid (cryogenic liquid)	2.2	UN1970		NONFLAMMABLE GAS			320	None	None	50 kg	500 kg	B				
	Lacquer base or lacquer chips, nitrocellulose, dry, see Nitrocellulose, *etc. (UN 2557)*																
	Lacquer base or lacquer chips, plastic, wet with alcohol or solvent, see Nitrocellulose *(UN 2059, UN 2060, UN 2555, UN2556) or* Paint *etc (UN1263)*																
	Lead acetate	6.1	UN1616	III	KEEP AWAY FROM FOOD			153	213	240	100 kg	200 kg	A				
	Lead arsenates	6.1	UN1617	II	POISON			None	212	242	25 kg	100 kg	A				
	Lead arsenites	6.1	UN1618	II	POISON			None	212	242	25 kg	100 kg	A				
	Lead azida (dry)	Forbidden															
	Lead azide, wetted *with not less than 20 percent water or mixture of alcohol and water, by mass*	1.1A	UN0129	II	EXPLOSIVE 1.1A	111, 117		None	62	None	Forbidden	Forbidden	E		2E	6E	
	Lead compounds, soluble, n.o.s.	6.1	UN2291	III	KEEP AWAY FROM FOOD			153	213	240	100 kg	200 kg	A				
	Lead cyanide	6.1	UN1620	II	POISON			None	212	242	25 kg	100 kg	A		26		
	Lead dioxide	5.1	UN1872	III	OXIDIZER	A1		152	213	240	25 kg	100 kg	A		34		
	Lead dross, see Lead sulphate, *with more than 3 percent free acid*																
D	Lead mononitroresorcinate	1.1A	NA0473	II	EXPLOSIVE 1.1A	111, 117		None	62	None	Forbidden	Forbidden	E		2E	6E	
	Lead nitrate	5.1	UN1469	II	OXIDIZER, POISON			None	212	242	5 kg	25 kg	A				
	Lead nitroresorcinate (dry)	Forbidden															
	Lead perchlorate, solid	5.1	UN1470	II	OXIDIZER, POISON	T8		None	212	242	5 kg	25 kg	A		56, 58, 106		
	Lead perchlorate, solution	5.1	UN1470	II	OXIDIZER, POISON	T8		None	202	243	1 L	5 L	A		56, 58, 106		
	Lead peroxide, see Lead dioxide																
	Lead phosphite, dibasic	4.1	UN2989	II	FLAMMABLE SOLID			None	212	240	5 kg	25 kg	B		34		
	Lead picrate (dry)	Forbidden		III	FLAMMABLE SOLID			151	213	240	15 kg	50 kg	B		34		
	Lead styphnate (dry)	Forbidden															
	Lead styphnate, wetted *or* Lead trinitroresorcinate, wetted *with not less than 20 percent water or mixture of alcohol and water, by mass*	1.1A	UN0130	II	EXPLOSIVE 1.1A	111, 117		None	62	None	Forbidden	Forbidden	E		2E	6E	
	Lead sulfate *with more than 3 percent free acid*	8	UN1794	II	CORROSIVE			154	212	240	15 kg	50 kg	A				
	Lead trinitroresorcinate, *see* Lead styphnate, *etc.*																
	Life-saving appliances, not self inflating *containing dangerous goods as equipment*	9	UN3072		None			None	219	None	No limit	No limit	A				
	Life-saving appliances, self inflating	9	UN2990		None			None	219	None	No limit	No limit	A				
	Lighter replacement cartridges containing liquefied petroleum gases (and similar devices, each not exceeding 65 grams), see Lighters for cigars, cigarettes, *etc. with flammable gas*																
D	Lighters for cigars, cigarettes, *etc., with lighter fluids*	3	NA1226	II	FLAMMABLE LIQUID	N10		None	21	None	Forbidden	Forbidden	B				
	Lighters, fuse	1.4S	UN0131	II	EXPLOSIVE 1.4S			None	62	None	25 kg	100 kg	A				
	Lighters or Lighter refills *cigarettes containing flammable gas*	2.1	UN1057		FLAMMABLE GAS	N10		None	21, 308	None	1 kg	15 kg	B		40		
	Lime, unslaked, see Calcium oxide																
	Liquefied gas, flammable, n.o.s.	2.1	UN3161		FLAMMABLE GAS			306	304	314, 315	Forbidden	150 kg	D		40		
	Liquefied gas, n.o.s.	2.2	UN3163		NONFLAMMABLE GAS			306	304	314, 315	75 kg	150 kg	A				
	Liquefied gas, oxidizing, n.o.s.	2.2	UN3157		NONFLAMMABLE GAS, OXIDIZER			306	304	314, 315	75 kg	150 kg	D				
	Liquefied gas, toxic, flammable, n.o.s. *Inhalation Hazard Zone A*	2.3	UN3160		POISON GAS, FLAMMABLE GAS	1		None	192	245	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic flammable n.o.s. *Inhalation Hazard Zone B*	2.3	UN3160		POISON GAS, FLAMMABLE GAS	2, B9, B14		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, flammable, n.o.s. *Inhalation Hazard Zone C*	2.3	UN3160		POISON GAS, FLAMMABLE GAS,	3, B14		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, flammable, n.o.s. *Inhalation Hazard Zone D*	2.3	UN3160		POISON GAS, FLAMMABLE GAS.	4		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, n.o.s. *Inhalation Hazard Zone A*	2.3	UN3162		POISON GAS	1		None	192	245	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, n.o.s. *Inhalation Hazard Zone B*	2.3	UN3162		POISON GAS	2, B9, B14		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, n.o.s. *Inhalation Hazard Zone C*	2.3	UN3162		POISON GAS	3, B14		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gas, toxic, n.o.s. *Inhalation Hazard Zone D*	2.3	UN3162		POISON GAS	4		None	304	314, 315	Forbidden	Forbidden	D		40		
	Liquefied gases, *non-flammable charged with nitrogen carbon dioxide or air*	2.2	UN1058		NONFLAMMABLE GAS			306	304	None	75 kg	150 kg	A				
	Liquefied hydrocarbon gas see Hydrocarbon gases, liquefied, n.o.s., *etc.*																
	Liquefied natural gas, see Methane, *etc. (UN 1972)*																
	Liquefied petroleum gas *see* Petroleum gases, liquefied																

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***) Exceptions	Non-bulk packaging	Bulk packaging	(9) Quantity limitations Passenger aircraft or railcar	Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Lithium	4.3	UN1415	I	DANGEROUS WHEN WET.	A7, A19, N45	None	211	244	Forbidden	15 kg	E	
	Lithium acetylide ethylenediamine complex, see Substances which in contact with water emit flammable gases												
	Lithium alkyls	4.2	UN2445	I	SPONTANEOUSLY COMBUSTIBLE. DANGEROUS WHEN WET.	B11, T28, T40	None	181	244	Forbidden	Forbidden	D	
	Lithium aluminum hydride	4.3	UN1410	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	E	
	Lithium aluminum hydride, ethereal	4.3	UN1411	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID.	A2, A3, A11, N34	None	201	244	Forbidden	1 L	D	40
	Lithium batteries, contained in equipment	9	UN3091	II	CLASS 9	18, 29, A12	185(l)	185	None	Forbidden	See A12	A	
	Lithium battery, liquid cathode	9	UN3090	II	CLASS 9	29	185(l)	185	None	Forbidden	35 kg gross	A	
	Lithium battery, solid cathode	9	UN3090	II	CLASS 9	29	185(l)	185	None	Forbidden	35 kg gross	A	
	Lithium borohydride	4.3	UN1413	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	E	
	Lithium ferrosilicon	4.3	UN2830	II	DANGEROUS WHEN WET.	A19	None	212	241	15 kg	50 kg	E	40, 85, 103
	Lithium hydride	4.3	UN1414	I	DANGEROUS WHEN WET	A19, N40	None	211	242	Forbidden	15 kg	E	
	Lithium hydride, fused solid	4.3	UN2805	II	DANGEROUS WHEN WET.	A8, A19, A20	None	212	241	15 kg	50 kg	E	
	Lithium hydroxide, monohydrate *or* Lithium hydroxide, solid	8	UN2680	III	CORROSIVE		154	212	240	15 kg	50 kg	A	
	Lithium hydroxide, solution	8	UN2679	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
				III	CORROSIVE	T8	154	203	241	5 L	60 L	A	96
	Lithium hypochlorite, dry *or* Lithium hypochlorite mixtures, dry	5.1	UN1471	II	OXIDIZER	A9, N34	152	212	240	5 kg	25 kg	A	48, 56, 58, 68, 106, 116
	Lithium in cartridges, see Lithium												
	Lithium nitrate	5.1	UN2722	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
	Lithium nitride	4.3	UN2806	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	E	
	Lithium peroxide	5.1	UN1472	II	OXIDIZER	A9, N34	152	212	None	5 kg	25 kg	A	16, 75, 106
	Lithium silicon	4.3	UN1417	II	DANGEROUS WHEN WET.	A19, A20	None	212	241	15 kg	50 kg	A	85, 103
	LNG, see Methane, etc. *(UN 1972)*												
	London purple	6.1	UN1621	II	POISON		None	212	242	25 kg	100 kg	A	
	LPG, see Petroleum gases, liquefied												
	Lye, see Sodium hydroxide, solutions												
	Magnesium alkyls	4.2	UN3053	I	SPONTANEOUSLY COMBUSTIBLE	B11, T28, T29, T40	None	181	244	Forbidden	Forbidden	D	18
	Magnesium aluminum phosphide	4.3	UN1419	I	DANGEROUS WHEN WET. POISON.	A19, N34, N40	None	211	242	Forbidden	15 kg	E	40, 85
	Magnesium arsenate	6.1	UN1622	II	POISON		None	212	242	25 kg	100 kg	A	
	Magnesium bisulfite solution, *see* Bisulfites, inorganic aqueous solutions, n.o.s.												
	Magnesium bromate	5.1	UN1473	II	OXIDIZER	A1	152	212	242	5 kg	25 kg	A	56, 58, 106
	Magnesium chlorate	5.1	UN2723	II	OXIDIZER		152	212	242	5 kg	25 kg	A	58, 58, 106
	Magnesium diamide	4.2	UN2004	II	SPONTANEOUSLY COMBUSTIBLE.	A8, A19, A20	None	212	241	15 kg	50 kg	C	
	Magnesium diphenyl	4.2	UN2005	II	SPONTANEOUSLY COMBUSTIBLE.		None	187	244	Forbidden	Forbidden	C	
	Magnesium dross, wet or hot	Forbidden											
	Magnesium fluorosilicate	6.1	UN2853	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	28
	Magnesium granules, coated *particle size not less than 149 microns*	4.3	UN2950	III	DANGEROUS WHEN WET	A1, A19	None	213	240	25 kg	100 kg	A	
	Magnesium hydride	4.3	UN2010	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	E	
	Magnesium *or* Magnesium alloys *with more than 50 percent magnesium in pellets, turnings or ribbons*	4.1	UN1869	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	39
	Magnesium nitrate	5.1	UN1474	II	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
	Magnesium perchlorate	5.1	UN1475	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106

	Magnesium peroxide	5.1	UN1476	II	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Magnesium phosphide	4.3	UN2011	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
	Magnesium, powder *or* Magnesium alloys, powder	4.3	UN1418	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	A19, B56	None	211	244	Forbidden	15 kg	A	39
				II	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	A19, B56	None	212	241	15 kg	50 kg	A	39
				III	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	A19, B56	None	213	241	25 kg	100 kg	A	39
	Magnesium scrap see Magnesium, *etc. (UN 1869)*												
	Magnesium silicide	4.3	UN2624	II	DANGEROUS WHEN WET.	A19, A20	None	212	241	15 kg	50 kg	B	85, 103
	Magnetized material see section 173.21												
D	Maleic acid	8	NA2215	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Maleic anhydride	8	UN2215	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	
	Malononitrile	6.1	UN2647	II	POISON		None	212	242	25 kg	100 kg	A	12
	Maneb *or* Maneb preparations *with not less than 60 percent maneb*	4.2	UN2210	III	SPONTANEOUSLY COMBUSTIBLE, DANGEROUS WHEN WET	A1, A19	None	213	242	25 kg	100 kg	A	34
	Maneb stabilized *or* Maneb preparations, stabilized *against self-heating*	4.3	UN2968	III	DANGEROUS WHEN WET.	A1, A19	None	213	242	25 kg	100 kg	B	34
	Manganese nitrate	5.1	UN2724	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
	Manganese resinate	4.1	UN1330	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	
	Mannitan tetranitrate	Forbidden											
	Mannitol hexanitrate (dry)	Forbidden											
D	Mannitol hexanitrate, wetted *or* Nitromannite, wetted *with not less than 40 percent water, by mass or mixture of alcohol and water*	1.1A	NA0133	II	EXPLOSIVE 1.1A	111	None	62	None	Forbidden	Forbidden	E	1E, 5E
	Marine pollutants, liquid or solid, n.o.s., see Environmentally hazardous substances, liquid *or* solid, n.o.s.												
	Matches, block, see Matches, strike anywhere'												
	Matches, fusee	4.1	UN2254	III	FLAMMABLE SOLID		186	186	None	Forbidden	Forbidden	A	
	Matches, safety *(book, card or strike on box)*	4.1	UN1944	III	FLAMMABLE SOLID		186	186	None	25 kg	100 kg	A	
	Matches, strike anywhere	4.1	UN1331	III	FLAMMABLE SOLID		186	186	None	Forbidden	Forbidden	B	
	Matches, wax, Vesta	4.1	UN1945	III	FLAMMABLE SOLID		186	186	None	25 kg	100 kg	B	
	Matting acid, see Sulfuric acid												
	Medicine, liquid, flammable, toxic, n.o.s.	3	UN3248	II	FLAMMABLE LIQUID, POISON.	36	None	202	None	1 L	5 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	36	150	203	None	5 L	5 L	A	
	Medicine, liquid, toxic, n.o.s.	6.1	UN1851	II	POISON		None	202	243	5 L	5 L	C	40
				III	KEEP AWAY FROM FOOD		153	203	241	5 L	5 L	C	40
	Medicine, solid toxic, n.o.s.	6.1	UN3249	II	POISON	36	None	212	None	5 kg	5 kg	C	40
				III	KEEP AWAY FROM FOOD	36	153	213	None	5 kg	5 kg	C	40
D	Medicines, *corrosive, liquid* n.o.s.	8	NA1760	II	CORROSIVE	B3	154	202	242	1 L	30 L	B	40
				III	CORROSIVE		154	203	241	5 L	60 L	A	40
D	Medicines, *corrosive, solid* n.o.s.	8	NA1759	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
				III	CORROSIVE		154	213	240	25 kg	100 kg	A	
D	Medicines, *flammable, liquid,* n.o.s.	3	NA1993	I	FLAMMABLE LIQUID		150	201	243	1 L	30 L	E	
				II	FLAMMABLE LIQUID		150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1	150	203	242	60 L	220 L	A	
D	Medicines, *flammable solid,* n.o.s.	4.1	NA1325	II	FLAMMABLE SOLID		151	212	240	15 kg	50 kg	B	
D	Medicines, *oxidizing substance, solid,* n.o.s.	5.1	NA1479	II	OXIDIZER		152	212	242	5 kg	25 kg	B	56, 58, 69, 106
	Mellitetrahydrophthalic anhydride see Corrosive liquids, n.o.s.												
	Mercaptans, liquid flammable, toxic, n.o.s *or* Mercaptan mixtures, liquid, flammable, toxic, n.o.s.	3	UN1228	II	FLAMMABLE LIQUID, POISON.	T13	None	202	243	Forbidden	60 L	B	40, 95
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T8	150	203	242	5 L	220 L	A	40, 95
	Mercaptans liquid, toxic, flammable, n.o.s *or* Mercaptan mixtures liquid, toxic flammable, n.o.s., *flash point not less than 23 degrees C*	6.1	UN3071	II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	C	40, 121
	5-Mercaptotetrazol-1-acetic acid	1.4C	UN0448	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	1E, 5E, 24E
	Mercuric arsenate	6.1	UN1623	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercuric chloride	6.1	UN1624	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercuric compounds see Mercury compounds, *etc.*												
	Mercuric nitrate	6.1	UN1625	II	POISON	N73	None	212	242	25 kg	100 kg	A	
+	Mercuric potassium cyanide	6.1	UN1626	I	POISON	N74, N75	None	211	242	5 kg	50 kg	A	28

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Mercuric sulfocyanate, see Mercury thiocyanate												
	Mercuric, see Mercury nucleate												
	Mercurous azide	Forbidden											
	Mercurous compounds, see Mercury compounds, etc.												
	Mercurous nitrate	6.1	UN1627	II	POISON		None	212	242	25 kg	100 kg	A	
A, W	Mercury	8	UN2809	III	CORROSIVE		154	154	240	35 kg	35 kg	B	40, 97
	Mercury acetate	6.1	UN1629	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury acetylide	Forbidden											
	Mercury ammonium chloride	6.1	UN1630	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury based pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2778	I	FLAMMABLE LIQUID, POISON		None	201	240	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	242	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	B	40
	Mercury based pesticides, liquid, toxic	6.1	UN3012	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	4 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Mercury based pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN3011	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID	T14	None	202	242	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	T14	150	203	242	60 L	220 L	A	40
	Mercury based pesticides, solid, toxic	6.1	UN2777	I	POISON		None	211	240	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
	Mercury benzoate	6.1	UN1631	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury bromides	6.1	UN1634	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury compounds, liquid, n.o.s.	6.1	UN2024	I	POISON		None	201	243	1 L	30 L	B	40
				II	POISON		None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	B	40
	Mercury compounds, solid, n.o.s.	6.1	UN2025	I	POISON		None	211	242	5 kg	50 kg	A	
				II	POISON		None	212	242	25 kg	100 kg	A	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
A	Mercury *contained in manufactured articles*	8	UN3506	II	CORROSIVE		None	164	None	No limit	No limit	B	40, 97
	Mercury cyanide	6.1	UN1636	II	POISON	N74, N75	None	212	242	25 kg	100 kg	A	28
	Mercury fulminate, wetted *with not less than 20 percent water, or mixture of alcohol and water, by mass*	1.1A	UN0135	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	26, 66
	Mercury gluconate	6.1	UN1637	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury iodide	6.1	UN1638	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury iodide aquabasic ammonobasic (Iodide of Millon's base)	Forbidden											
	Mercury iodide, solution	6.1	UN1638	II	POISON		None	202	243	1 L	60 L	A	
	Mercury nitride	Forbidden											
	Mercury nucleate	6.1	UN1639	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oleate	6.1	UN1640	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oxide	6.1	UN1641	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oxycyanide	Forbidden											
	Mercury oxycyanide, desensitized	6.1	UN1642	II	POISON		None	212	242	25 kg	100 kg	A	28, 91
	Mercury potassium iodide	6.1	UN1643	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury salicylate	6.1	UN1644	II	POISON		None	212	242	25 kg	100 kg	A	
+	Mercury sulfates	6.1	UN1645	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury thiocyanate	6.1	UN1646	II	POISON		None	212	242	25 kg	100 kg	A	
	Mesityl oxide	3	UN1229	III	FLAMMABLE LIQUID	B1, T1	None	203	242	60 L	220 L	A	

	Metal alkyl halides, n.o.s *or* Metal aryl halides, n.o.s.	4.2	UN3049	I	SPONTANEOUSLY COMBUSTIBLE.	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D		
	Metal alkyl hydrides, n.o.s *or* Metal aryl hydrides, n.o.s	4.2	UN3050	I	SPONTANEOUSLY COMBUSTIBLE	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D		
D	Metal alkyl solution n.o.s.	3	NA9195	II	FLAMMABLE LIQUID		150	202	242	1 L	4 L	B		
	Metal alkyls, n.o.s. *or* Metal aryls, n.o.s.	4.2	UN2003	I	SPONTANEOUSLY COMBUSTIBLE.	B11, T42	None	181	244	Forbidden	Forbidden	D		
	Metal carbonyls, n.o.s.	6.1	UN3281	I	POISON		None	201	243	1 L	30 L	B		40
				II	POISON	T14	None	202	243	5 L	60 L	B		40
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A		40
	Metal catalyst, dry	4.2	UN2881	I	SPONTANEOUSLY COMBUSTIBLE.	N34	None	187	None	Forbidden	Forbidden	C		
				II	SPONTANEOUSLY COMBUSTIBLE.	N34	None	187	None	Forbidden	50 kg	C		
				III	SPONTANEOUSLY COMBUSTIBLE.	N34	None	187	None	25 kg	100 kg	C		
	Metal catalyst, wetted *with a visible excess of liquid*	4.2	UN1378	II	SPONTANEOUSLY COMBUSTIBLE.	A2, A8, N34	None	212	None	Forbidden	50 kg	C		
	Metal hydrides, flammable, n.o.s.	4.1	UN3182	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	E		
				III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	E		
	Metal hydrides, water reactive, n.o.s.	4.3	UN1409	I	DANGEROUS WHEN WET	A19, N34, N40	None	211	242	Forbidden	15 kg	D		
				II	DANGEROUS WHEN WET	A19, N34, N40	None	212	242	15 kg	50 kg	D		
	Metal powder, self-heating, n.o.s.	4.2	UN3189	II	SPONTANEOUSLY COMBUSTIBLE.		None	212	241	15 kg	50 kg	C		
				III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	25 kg	100 kg	C		
	Metal powders, flammable, n.o.s.	4.1	UN3089	II	FLAMMABLE SOLID		151	212	240	15 kg	50 kg	B		
				III	FLAMMABLE SOLID		151	213	240	25 kg	100 kg	B		
	Metal salts of methyl nitramine (dry)	Forbidden												
	Metal salts of organic compounds, flammable, n.o.s.	4.1	UN3181	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	B		40
				III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	B		40
	Metaldehyde	4.1	UN1332	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A		
	Metallic substance, water-reactive, n.o.s.	4.3	UN3208	I	DANGEROUS WHEN WET		None	211	242	Forbidden	15 kg	E		40
				II	DANGEROUS WHEN WET		None	212	242	15 kg	50 kg	E		40
				III	DANGEROUS WHEN WET		None	213	241	25 kg	100 kg	E		40
	Metallic substance, water-reactive, self-heating, n.o.s.	4.3	UN3209	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.		None	211	242	Forbidden	15 kg	E		40
				II	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.		None	212	242	15 kg	50 kg	E		40
				III	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.		None	213	242	25 kg	100 kg	E		40
	Methacrylaldehyde	3	UN2396	II	FLAMMABLE LIQUID, POISON.	T8	None	202	243	1 L	60 L	E		40
	Methacrylic acid, inhibited	8	UN2531	III	CORROSIVE	T8	154	203	241	5 L	60 L	A		
+	Methacrylonitrile, inhibited	3	UN3079	I	FLAMMABLE LIQUID, POISON.	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	30 L	D		12, 40, 48
	Methallyl alcohol	3	UN2614	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
	Methane and hydrogen, mixtures, see Hydrogen and methane, mixtures, etc.													
	Methane, compressed *or* Natural gas, compressed *(with high methane content)*	2.1	UN1971		FLAMMABLE GAS		306	302	302	Forbidden	150 kg	E		40
	Methane, refrigerated liquid *(cryogenic liquid) or* Natural gas, refrigerated liquid *(cryogenic liquid, with high methane content)*	2.1	UN1972		FLAMMABLE GAS		None	None	318	Forbidden	Forbidden	D		40
	Methanesulphonyl chloride	6.1	UN3246	I	POISON, CORROSIVE	T24, T26	None	201	243	0.5 L	2.5 L	D		40
I	Methanol, *or* Methyl alcohol	3	UN1230	II	FLAMMABLE LIQUID, POISON	T8	150	202	242	1 L	60 L	B		40
D	Methanol, *or* Methyl alcohol	3	UN1230	II	FLAMMABLE LIQUID	T8	150	202	242	1 L	60 L	B		40
	Methazoic acid	Forbidden												
	4-Methoxy-4-methylpentan-2-one	3	UN2293	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
	1-Methoxy-2-propanol	3	UN3092	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
+	Methoxymethyl isocyanate	3	UN2605	I	FLAMMABLE LIQUID, POISON.	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	30 L	D		40
	Methyl acetate	3	UN1231	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.xxx) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Methyl acetylene and propadiene mixtures, stabilized	2.1	UN1060		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	D	40
	Methyl acrylate, inhibited	3	UN1919	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Methyl alcohol, see Methanol												
	Methyl allyl chloride	3	UN2554	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	
	Methyl amyl ketone, see Amyl methyl ketone												
	Methyl benzoate	6.1	UN2938	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A	
	Methyl bromide	2.3	UN1062		POISON GAS	2, B14	None	193	314, 315	Forbidden	25 kg	D	40
	Methyl bromide and chloropicrin mixtures with more than 2 percent chloropicrin, see Chloropicrin and methyl bromide mixtures												
	Methyl bromide and chloropicrin mixtures with not more than 2 percent chloropicrin, see Methyl bromide												
	Methyl bromide and ethylene dibromide mixtures, liquid	6.1	UN1647	I	POISON	2, B9, B14, B32, B74, N65, T38, T43, T45	None	227	244	Forbidden	30 L	C	40
	Methyl bromoacetate	6.1	UN2643	II	POISON	T8	None	202	243	5 L	60 L	D	40
	2-Methyl-1-butene	3	UN2459	I	FLAMMABLE LIQUID	T14	None	201	243	1 L	30 L	E	
	2-Methyl-2-butene	3	UN2460	II	FLAMMABLE LIQUID	T14	None	202	242	5 L	60 L	E	
	3-Methyl-1-butene	3	UN2561	I	FLAMMABLE LIQUID	T20	None	201	243	1 L	30 L	E	
	Methyl tert-butyl ether	3	UN2398	II	FLAMMABLE LIQUID	T4	150	202	242	5 L	60 L	E	
	Methyl butyrate	3	UN1237	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Methyl chloride	2.1	UN1063		FLAMMABLE GAS		306	304	314, 315	5 kg	100 kg	D	40
	Methyl chloride and chloropicrin mixtures, see Chloropicrin and methyl chloride mixtures												
	Methyl chloride and methylene chloride mixtures	2.1	UN1912		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	D	40
	Methyl chloroacetate	6.1	UN2295	II	POISON	T11	None	202	243	5 L	60 L	D	
	Methyl chlorocarbonate, see Methyl chloroformate												
	Methyl chloroform, see 1,1,1-Trichloroethane												
	Methyl chloroformate	6.1	UN1238	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	1, A3, A6, A7, B9, B14, B30, B72, N34, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	21, 40, 100
	Methyl-2-chloropropionate	3	UN2933	III	FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A	
	Methyl cyclohexane	3	UN2296	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B	
	Methyl cyclohexanone	3	UN2297	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Methyl cyclopentane	3	UN2298	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Methyl dichloroacetate	6.1	UN2299	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	Methyl ethyl ether, see Ethyl methyl ether												
	Methyl ethyl ketone, *see* Ethyl methyl ketone												
	Methyl ethyl ketone peroxide, in solution with more than 9 percent by mass active oxygen	Forbidden											
	2-Methyl-5-ethylpyridine	6.1	UN2300	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Methyl fluoride	2.1	UN2454		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
	Methyl formate	3	UN1243	I	FLAMMABLE LIQUID	T20	150	201	243	1 L	30 L	E	
	Methyl iodide	6.1	UN2644	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	A	12, 40
	Methyl isobutyl carbinol	3	UN2053	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Methyl isobutyl ketone	3	UN1245	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Methyl isobutyl ketone peroxide, in solution with more than 9 percent by mass active oxygen	Forbidden											
	Methyl isocyanate	6.1	UN2480	I	POISON, FLAMMABLE LIQUID	1, A7, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	26, 40
	Methyl isopropenyl ketone, inhibited	3	UN1246	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	

+	Methyl isothiocyanate	3	UN2477	II	FLAMMABLE LIQUID, POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	60 L	A	
	Methyl isovalerate	3	UN2400	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Methyl magnesium bromide, in ethyl ether	4.3	UN1928	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID		None	201	243	Forbidden	1 L	D	
	Methyl mercaptan	2.3	UN1064		POISON GAS, FLAMMABLE GAS.	3, 25, B7, B9, B14	None	304	314, 315	Forbidden	25 kg	D	40
	Methyl mercaptopropionaldehyde, see Thia-4-pentanal												
	Methyl methacrylate monomer, inhibited	3	UN1247	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Methyl nitramine (dry)	Forbidden											
	Methyl nitrate	Forbidden											
	Methyl nitrite	Forbidden											
	Methyl norbornene dicarboxylic anhydride, see Corrosive liquids, n.o.s.												
	Methyl orthosilicate	6.1	UN2606	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	30 L	E	40
D	Methyl parathion *liquid*	6.1	NA3018	II	POISON	N76, T14	None	202	243	Forbidden	1 L	A	40
D	Methyl parathion *solid*	6.1	NA2783	II	POISON	N77	None	212	242	25 kg	100 kg	A	40
D	Methyl phosphonic dichloride	6.1	NA9206	I	POISON, CORROSIVE	2, A3, B9, B14, B32, B74, N34, N43, T38, T43, T45.	None	227	244	Forbidden	Forbidden	C	
	Methyl phosphonothioic dichloride, anhydrous, see Corrosive liquid, n o.s.												
D	Methyl phosphonous dichloride, *pyrophoric liquid*	6.1	NA2845	I	POISON, SPONTANEOUSLY COMBUSTIBLE.	2, B9, B14, B16, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	18
	Methyl picric acid (heavy metal salts of)	Forbidden											
	Methyl propionate	3	UN1248	II	FLAMMABLE LIQUID	T2	150	202	242	5 L	60 L	B	
	Methyl propyl ether	3	UN2612	II	FLAMMABLE LIQUID	T14	150	202	242	5 L	60 L	E	40
	Methyl propyl ketone	3	UN1249	II	FLAMMABLE LIQUID.	T1	150	202	242	5 L	60 L	B	
	Methyl sulfate, see Dimethyl sulfate												
	Methyl sulfide, see Dimethyl sulfide												
	Methyl trichloroacetate	6.1	UN2533	III	KEEP AWAY FROM FOOD	45, T1	153	203	241	60 L	220 L	A	
	Methyl trimethylol methane trinitrate	Forbidden											
	Methyl vinyl ketone	3	UN1251	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Methylal	3	UN1234	II	FLAMMABLE LIQUID	T14	None	202	242	5 L	60 L	E	
	Methylamine, anhydrous	2.1	UN1061		FLAMMABLE GAS	25	306	304	314, 315	Forbidden	150 kg	B	40
	Methylamine, aqueous solution	3	UN1235	II	FLAMMABLE LIQUID, CORROSIVE.	B1, T8	150	202	243	1 L	5 L	E	41
	Methylamine dinitramine and dry salts thereof	Forbidden											
	Methylamine nitroform	Forbidden											
	Methylamine perchlorate (dry)	Forbidden											
	Methylamyl acetate	3	UN1233	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	N-Methylaniline	6.1	UN2294	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	alpha-Methylbenzyl alcohol	6.1	UN2937	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A	
	3-Methylbutan-2-one	3	UN2397	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	N-Methylbutylamine	3	UN2945	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	40
	Methylchloromethyl ether	6.1	UN1239	I	POISON, FLAMMABLE LIQUID	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	40
	Methylchlorosilane	2.3	UN2534		POISON GAS, FLAMMABLE GAS, CORROSIVE.	2, A2, A3, A7, B9, B14, N34	None	226	314, 315	Forbidden	Forbidden	D	17, 40
	Methylcyclohexanols, *flammable*	3	UN2617	III	FLAMMABLE LIQUID	B1, T2	150	203	242	60 L	220 L	A	
D	Methyldichloroarsine	6.1	NA1556	I	POISON	2	None	192	None	Forbidden	Forbidden	D	40, 95
	Methyldichlorosilane	4.3	UN1242	I	DANGEROUS WHEN WET, CORROSIVE, FLAMMABLE LIQUID	A2, A3, A7, B6, B77, N34, T16, T26.	None	201	243	Forbidden	1 L	D	21, 28, 40, 49, 100
	Methylene chloride, see Dichloromethane												
	Methylene glycol dinitrate	Forbidden											
	2-Methylfuran	3	UN2301	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	E	
	a-Methylglucoside tetranitrate	Forbidden											
	a-Methylglycerol trinitrate	Forbidden											
	5-Methylhexan-2-one	3	UN2302	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Methylhydrazine	6.1	UN1244	I	POISON, FLAMMABLE LIQUID, CORROSIVE.	1, B9, B14, B30, B72, B77, N34, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	21, 40, 49, 100
	Methylmorpholine	3	UN2535	II	FLAMMABLE LIQUID, CORROSIVE.	B6, T8	None	202	243	1 L	5 L	B	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.—)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Methylpentadienes	3	UN2461	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	E	
	2-Methylpentan-2-ol	3	UN2560	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Methylpentanes, see Hexanes												
	Methylphenyldichlorosilane	8	UN2437	II	CORROSIVE	T8, T26	154	202	242	1 L	30 L	C	40
	1-Methylpiperidine	3	UN2399	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	
	Methyltetrahydrofuran	3	UN2536	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	
	Methyltrichlorosilane	3	UN1250	II	FLAMMABLE LIQUID, CORROSIVE	A7, B6, B77, N34, T14, T26	None	201	243	Forbidden	2.5 L	B	40
	alpha-Methylvaleraldehyde	3	UN2367	II	FLAMMABLE LIQUID	B1, T7	150	202	242	5 L	60 L	B	
	Mine rescue equipment containing carbon dioxide, see Carbon dioxide												
	Mines, with bursting charge	1.1F	UN0136	II	EXPLOSIVE 1.1F		62	None	Forbidden	Forbidden	Forbidden	E	
	Mines, with bursting charge	1.1D	UN0137	II	EXPLOSIVE 1.1D		62	None	Forbidden	Forbidden	Forbidden	B	3E, 7E
	Mines, with bursting charge	1.2D	UN0138	III	EXPLOSIVE 1.2D		62	None	Forbidden	Forbidden	Forbidden	B	3E, 7E
	Mines, with bursting charge	1.2F	UN0294	II	EXPLOSIVE 1.2F		62	None	Forbidden	Forbidden	Forbidden	E	
	Mixed acid, see Nitrating acid, mixtures etc.												
	Mobility aids, see Wheel chair, electric												
D	Model rocket motor	1.4C	NA0276	III	EXPLOSIVE 1.4C	51	None	62	None	Forbidden	75 kg	A	24E
D	Model rocket motor	1.4S	NA0323	II	EXPLOSIVE 1.4S	51	None	62	None	25 kg	100 kg	A	9E
	Molybdenum pentachloride	8	UN2508	III	CORROSIVE	T8, T26	154	213	240	25 kg	100 kg	C	40
	Monochloroacetone (unstabilized)	Forbidden											
	Monochloroethylene, see Vinyl chloride, inhibited												
	Monoethanolamine, see Ethanolamine, solutions												
	Monoethylamine, see Ethylamine												
	Morpholine	8	UN2054	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Morpholine, aqueous, mixture, see Corrosive liquids, n.o.s.												
	Motor fuel anti-knock compounds *see* Motor fuel anti-knock mixtures												
+	Motor fuel anti-knock mixtures	6.1	UN1649	I	POISON, FLAMMABLE LIQUID	14, B9, B12, B90, T26, T39	None	201	244	Forbidden	30 L	D	25, 40
	Motor spirit, *see* Gasoline												
	Motor vehicle, see Vehicles, self-propelled												
	Motorcycles, see Vehicles, self-propelled												
	Muriatic acid, see Hydrochloric acid solution												
	Musk xylene, *see* 5-tert-Butyl-2,4,6-trinitro-m-xylene												
	Naphthalene, crude *or* Naphthalene, refined	4.1	UN1334	III	FLAMMABLE SOLID	A19	151	213	240	25 kg	100 kg	A	
	Naphthalene diozonide	Forbidden											
	Naphthalene, molten	4.1	UN2304	III	FLAMMABLE SOLID	A1, T8	151	213	241	Forbidden	Forbidden	C	
	Naphthyl amineperchlorate	Forbidden											
	beta-Naphthylamine	6.1	UN1650	II	POISON	T12, T26	None	212	242	25 kg	100 kg	A	
	alpha-Naphthylamine	6.1	UN2077	III	KEEP AWAY FROM FOOD	T7	153	213	240	100 kg	200 kg	A	
	Naphthylthiourea	6.1	UN1651	II	POISON		None	212	242	25 kg	100 kg	A	
	Naphthylurea	6.1	UN1652	II	POISON		None	212	242	25 kg	100 kg	A	
	Natural gases (with high methane content), see Methane, etc. *(UN 1971, UN 1972)*												
	Neohexane, see Hexanes												
	Neon, compressed	2.2	UN1065		NONFLAMMABLE GAS		306	302	302	75 kg	150 kg	A	
	Neon, refrigerated liquid *(cryogenic liquid)*	2.2	UN1913		NONFLAMMABLE GAS		320	316	None	50 kg	500 kg	B	
	New explosive or explosive device, see sections 173.51 and 173.56												
	Nickel carbonyl	6.1	UN1259	I	POISON, FLAMMABLE LIQUID	1	None	198	None	Forbidden	Forbidden	D	18, 40
	Nickel cyanide	6.1	UN1653	II	POISON	N74, N75	None	212	242	25 kg	100 kg	A	26
	Nickel nitrate	5.1	UN2725	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
	Nickel nitrite	5.1	UN2726	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	56, 58
	Nickel picrate	Forbidden											
	Nicotine	6.1	UN1654	II	POISON		None	202	243	5 L	60 L	A	
	Nicotine compounds, liquid, n.o.s. *or* Nicotine preparations, liquid, n.o.s.	6.1	UN3144	I	POISON	A4, T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	B	40
	Nicotine compounds, solid, n.o.s. *or* Nicotine preparations, solid, n.o.s.	6.1	UN1655	I	POISON		None	211	242	5 kg	50 kg	B	
				II	POISON		None	212	242	25 kg	100 kg	A	

			III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A			
Nicotine hydrochloride *or* Nicotine hydrochloride solution	6.1	UN1656	II	POISON		None	202	243	5 L	60 L	A			
Nicotine salicylate	6.1	UN1657	II	POISON		None	212	242	25 kg	100 kg	A			
Nicotine sulfate, *solid*	6.1	UN1658	II	POISON		None	212	242	25 kg	100 kg	A			
Nicotine sulfate, *solution*	6.1	UN1658	II	POISON	T14	None	202	243	5 L	60 L	A			
Nicotine tartrate	6.1	UN1659	II	POISON		None	212	242	25 kg	100 kg	A			
Nitrated paper (unstable)	Forbidden													
Nitrates, inorganic, aqueous solution, n.o.s.	5.1	UN3218	II	OXIDIZER	T8		152	202	242	1 L	5 L	B		46
			III	OXIDIZER	T8		152	203	241	2.5 L	30 L	B		46
Nitrates, inorganic, n.o.s.	5.1	UN1477	II	OXIDIZER			152	212	240	5 kg	25 kg	A		46
			III	OXIDIZER			152	213	240	25 kg	100 kg	A		46
Nitrates of diazonium compounds	Forbidden													
Nitrating acid mixtures, spent *with more than 50 percent nitric acid*	8	UN1826	I	CORROSIVE, OXIDIZER	B47, T12, T27	None	158	243	Forbidden	2.5 L	D			40, 66
Nitrating acid mixtures spent *with not more than 50 percent nitric acid*	8	UN1826	II	CORROSIVE	B2, B47, T12, T27	None	158	242	Forbidden	30 L	D			40
Nitrating acid mixtures *with more than 50 percent nitric acid*	8	UN1796	I	CORROSIVE, OXIDIZER	B47, T12, T27	None	158	243	Forbidden	2.5 L	D			40, 66
Nitrating acid mixtures *with not more than 50 percent nitric acid*	8	UN1796	II	CORROSIVE	B2, B47, T12, T27	None	158	242	Forbidden	30 L	D			40
Nitric acid *other than red fuming, with more than 70 percent nitric acid*	8	UN2031	I	CORROSIVE	B12, B53, T9, T27	None	158	243	Forbidden	2.5 L	D			44, 66, 89, 90, 110, 111
Nitric acid *other than red fuming, with not more than 70 percent nitric acid*	8	UN2031	II	CORROSIVE	B2 B12, B53, T9, T27	None	158	242	Forbidden	30 L	D			44, 66, 89, 90, 110, 111
Nitric acid, red fuming	8	UN2032	I	CORROSIVE, OXIDIZER, POISON	2, B9, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D			40, 66, 74, 89, 90
Nitric oxide	2.3	UN1660		POISON GAS, OXIDIZER, CORROSIVE.	1, 25, B12, B37, B45, B50, B60, B77	None	337	None	Forbidden	Forbidden	D			40, 89, 90
Nitric oxide and dinitrogen tetroxide mixtures *or* Nitric oxide and nitrogen dioxide mixtures	2.3	UN1975		POISON GAS, OXIDIZER, CORROSIVE	1, 25, B7, B9, B12, B14, B45, B46, B61, B66, B67 B77	None	337	None	Forbidden	Forbidden	D			40, 89, 90
Nitriles, flammable, toxic, n.o.s.	3	UN3273	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	E			40, 52
			II	FLAMMABLE LIQUID, POISON	T14	None	202	243	1 L	60 L	B			40, 52
Nitriles, toxic, flammable, n.o.s.	6.1	UN3275	I	POISON, FLAMMABLE LIQUID,		None	201	243	1 L	30 L	B			40
			II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B			40
Nitriles, toxic, n.o.s.	6.1	UN3276	I	POISON		None	201	243	1 L	30 L	B			
			II	POISON	T14	None	202	243	5 L	60 L	B			
			III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A			
Nitrites, inorganic, aqueous solution, n.o.s.	5.1	UN3218	II	OXIDIZER	T8	152	202	242	1 L	5 L	B			46, 56, 58
			III	OXIDIZER	T8	152	203	241	2.5 L	30 L	B			46, 56, 58
Nitrites, inorganic, n.o.s.	5.1	UN2627	II	OXIDIZER	33	152	212	None	5 kg	25 kg	A			46, 56, 58
3-Nitro-4-chlorobenzotrifluoride	6.1	UN2307	II	POISON	T6	None	202	243	5 L	60 L	A			40
5-Nitro-4-diazotoluene-3-sulfonic acid (dry)	Forbidden													
Nitro isobutane triol trinitrate	Forbidden													
N-Nitro-N-methylglycolamide nitrate	Forbidden													
2-Nitro-2-methylpropanol nitrate	Forbidden													
Nitro urea	1.1D	UN0147	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B			1E, 5E
N-Nitroaniline	Forbidden													
Nitroanilines *(o-, m-, p-)*	6.1	UN1661	II	POISON	T14	None	212	242	25 kg	100 kg	A			
Nitroanisole	6.1	UN2730	III	KEEP AWAY FROM FOOD.	T8	153	213	240	100 kg	200 kg	A			
Nitrobenzene	6.1	UN1662	II	POISON	T14	None	202	243	5 L	60 L	A			40
m-Nitrobenzene diazonium perchlorate	Forbidden													
Nitrobenzenesulfonic acid	8	UN2305	II	CORROSIVE		154	202	242	1 L	30 L	A			
Nitrobenzol; see Nitrobenzene														
5-Nitrobenzotriazol	1.1D	UN0385	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B			1E, 5E, 19E
Nitrobenzotrifluorides	6.1	UN2306	II	POISON	T8	None	202	243	5 L	60 L	A			40
Nitrobromobenzenes *liquid*	6.1	UN2732	III	KEEP AWAY FROM FOOD.	T8, T38	153	203	241	60 L	220 L	A			
Nitrobromobenzenes *solid*	6.1	UN2732	III	KEEP AWAY FROM, FOOD		153	213	240	100 kg	200 kg	A			
Nitrocellulose, *dry or wetted with less than 25 percent water (or alcohol), by mass*	1.1D	UN0340	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B			4E, 27E
Nitrocellulose membrane filters	4.1	UN3270	II	FLAMMABLE SOLID	43, A1	151	212	240	1 kg	15 kg	D			
Nitrocellulose, plasticized *with not less than 18 percent plasticizing substance, by mass*	1.3C	UN0343	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B			1E, 5E
Nitrocellulose, solution, flammable *with not more than 12.6 percent nitrogen, by mass, and not more than 55 percent nitrocellulose*	3	UN2059	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B			
			III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A			
Nitrocellulose, *unmodified or plasticized with less than 18 percent plasticizing substance, by mass*	1.1D	UN0341	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B			4E, 27E

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.xxx) Exceptions (8A)	None bulk packagings (8B)	Bulk packagings (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Nitrocellulose, wetted with not less than 25 percent alcohol, by mass	1.3C	UN0342	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Nitrocellulose with alcohol, with not less than 25 percent alcohol by mass, and with not more than 12.6 percent nitrogen, by dry mass	4.1	UN2556	II	FLAMMABLE SOLID		151	212	None	1 kg	15 kg	D	28
	Nitrocellulose with plasticizer or Nitrocellulose without plasticizer or Nitrocellulose with pigment or Nitrocellulose without pigment with not more than 12.6 percent nitrogen, by dry mass	4.1	UN2557	II	FLAMMABLE SOLID	34	151	212	None	1 kg	15 kg	D	28
	Nitrocellulose with water with not less than 25 percent water, by mass	4.1	UN2555	II	FLAMMABLE SOLID		151	212	None	15 kg	50 kg	E	28
	Nitrochlorobenzene, see Chloronitrobenzenes etc.												
	Nitrocresols	6.1	UN2446	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Nitroethane	3	UN2842	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	
	Nitrogen nitride	Forbidden											
	Nitrogen oxide polymer	Forbidden											
	Nitrogen, compressed	2.2	UN1066		NONFLAMMABLE GAS		306	302	314, 315	75 kg	150 kg	A	
	Nitrogen dioxide, liquefied see Dinitrogen tetroxide, liquefied												
	Nitrogen fertilizer solution, see Fertilizer ammoniating solution etc.												
	Nitrogen, mixtures with rare gases, see Rare gases and nitrogen mixtures												
	Nitrogen peroxide, see Dinitrogen tetroxide, liquefied												
	Nitrogen, refrigerated liquid cryogenic liquid	2.2	UN1977		NONFLAMMABLE GAS		320	316	316	50 kg	500 kg	D	
	Nitrogen tetroxide and nitric oxide mixtures, see Nitric oxide and nitrogen tetroxide mixtures												
	Nitrogen tetroxide, see Dinitrogen tetroxide, liquefied												
	Nitrogen trichloride	Forbidden											
D	Nitrogen trifluoride	2.2	UN2451		NONFLAMMABLE GAS, OXIDIZER		None	302	None	Forbidden	25 kg	D	40
I	Nitrogen trifluoride	2.3	UN2451		POISON GAS, OXIDIZER		None	302	None	Forbidden	25 kg	B	40
	Nitrogen triiodide	Forbidden											
	Nitrogen triiodide monoamine	Forbidden											
	Nitrogen trioxide	2.3	UN2421		POISON GAS, OXIDIZER, CORROSIVE		None	306	246	Forbidden	Forbidden	D	40, 89, 90
	Nitroglycerin, desensitized with not less than 40 percent non-volatile water insoluble phlegmatizer, by mass	1.1D	UN0143	II	EXPLOSIVE 1.1D, POISON		None	62	None	Forbidden	Forbidden	B	1E, 4E, 21E
	Nitroglycerin, liquid, not desensitized	Forbidden											
	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 5 percent nitroglycerin	3	UN3064	II	FLAMMABLE LIQUID	N6	None	202	None	Forbidden	5 L	E	
	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 10 percent nitroglycerin	1.1D	UN0144	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E, 21E
	Nitroglycerin solution in alcohol with not more than 1 percent nitroglycerin	3	UN1204	II	FLAMMABLE LIQUID	N34, T28	None	202	None	5 L	60 L	B	
	Nitroguanidine nitrate	Forbidden											
	Nitroguanidine or Picrite, dry or wetted with less than 20 percent water, by mass	1.1D	UN0282	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Nitroguanidine, wetted or Picrite, wetted with not less than 20 percent water, by mass	4.1	UN1336	I	FLAMMABLE SOLID	23, A6, A19, A20, N41	None	211	None	1 kg	15 kg	E	28
	Nitrohydrochloric acid	Forbidden											
	Nitrohydrochloric acid	8	UN1798	I	CORROSIVE	A3, B10, N41, T18, T27	None	201	243	Forbidden	2.5 L	D	40, 66, 74, 89, 90
	Nitromannite (dry)	Forbidden											
	Nitromannite, wetted, see Mannitol hexanitrate, etc.												
	Nitromethane	3	UN1261	II	FLAMMABLE LIQUID	T25	150	202	None	Forbidden	60 L	A	
	Nitromuriatic acid, see Nitrohydrochloric acid												
	Nitronaphthalene	4.1	UN2538	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	
	Nitrophenols (o-, m-, p-)	6.1	UN1663	III	KEEP AWAY FROM FOOD.	T8, T38	153	213	240	100 kg	200 kg	A	
	m-Nitrophenyldiazo methane	Forbidden											
	Nitroporbanes	3	UN2608	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	p-Nitrosodimethylaniline	4.2	UN1369	II	SPONTANEOUSLY COMBUSTIBLE	A19, A20, N34	None	218	241	15 kg	50 kg	D	34
O	Nitrosoguanidine	1.1A	NA0473	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 5E
	Nitrostarch, dry or wetted with less than 20 percent water, by mass	1.1D	UN0146	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E

Nitrostarch, wetted *with not less than 20 percent water, by mass*	4.1	UN1337	I	FLAMMABLE SOLID	23, A8 A19, A20, N41	None	211	None	1 kg	15 kg	D	28
Nitrosugars (dry)	Forbidden											
Nitrosyl chloride	2.3	UN1069		POISON GAS, CORROSIVE.	3, B14	None	304	314, 315	Forbidden	Forbidden	D	40
Nitrosylsulfuric acid	8	UN2308	II	CORROSIVE	A3, A6 A7, B2, N34 T9, T27	154	202	242	1 L	30 L	D	40, 66, 74, 69, 90
Nitrotoluenes, *liquid o-; m-, p-,*	6.1	UN1664	II	POISON	T14	None	202	243	5 L	60 L	A	
Nitrotoluenes, *solid m-, or p-*	6.1	UN1664	II	POISON	T14	None	212	242	25 kg	100 kg	A	
Nitrotoluidines (mono)	6.1	UN2660	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
Nitrotriazolone *or* NTO	1.1D	UN0490	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Nitrous oxide and carbon dioxide mixtures, see Carbon dioxide and nitrous oxide mixtures												
Nitrous oxide, compressed	2.2	UN1070		NONFLAMMABLE GAS OXIDIZER.		306	304	314 315	75 kg	150 kg	A	40
Nitrous oxide, refrigerated liquid	2.2	UN2201		NONFLAMMABLE GAS	B6	None	304	314, 315	75 kg	150 kg	B	40
Nitroxylenes, (o-; m-; p-)	6.1	UN1665	II	POISON	T14	None	202	243	5 L	60 L	A	
Nitroxylol see Nitroxylenes												
Nonanes	3	UN1920	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Nonflammable gas, n.o.s., see Compressed *or* Liqeefied gases, *etc. (UN 1956, UN 1956)*												
Nonliquefied gases, see Compressed gases, *etc.*												
Nonliquefied hydrocarbon gas, see Hydrocarbon gases, compressed, n.o.s.												
Nonyltrichlorosilane	8	UN1799	II	CORROSIVE	A7, B2, B6, N34, T8, T26.	None	202	242	Forbidden	30 L	C	40
2,5 Norbornadiene *or* Dicycloheptadiene	3	UN2251	II	FLAMMABLE LIQUID		150	202	242	5 L	60 L	D	
Nordhausen acid see Sulfuric acid, fuming *etc.*												
Octadecyltrichlorosilane	8	UN1800	II	CORROSIVE	A7, B2, B6 N34, T8	None	202	242	Forbidden	30 L	C	40
Octadiene	3	UN2309	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B	
1,7-Octadine-3,5-diyne-1,8-dimethoxy-9-octadecynoic acid	Forbidden											
Octafluorobut-2-ene	2.2	UN2422		NONFLAMMABLE GAS		None	304	314, 315	75 kg	150 kg	A	
Octafluorocyclobutane, *RC318*	2.2	UN1976		NONFLAMMABLE GAS		None	304	314, 315	75 kg	150 kg	A	
Octafluoropropane, *R218*	2.2	UN2424		NONFLAMMABLE GAS		None	304	314, 315	75 kg	150 kg	A	
Octanes	3	UN1262	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
Octogen, *see* Cyclotetramethylene tetranitramine, etc.												
Octolite *or* Octol, *dry or wetted with less than 15 percent water by mass*	1.1D	UN0266	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Octonal	1.1D	UN0496		EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Octyl aldehydes *flammable*	3	UN1191	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
tert-Octylmercaptan	6.1	UN3023	II	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	60 L	B	40, 102
Octyltrichlorosilane	8	UN1801	II	CORROSIVE	A7, B2, B6, N34, T8, T26.	None	202	242	Forbidden	30 L	C	40
Oil gas	2.3	UN1071		POISON GAS, FLAMMABLE GAS.	8	None	304	314, 315	Forbidden	150 kg	D	40
Oleum, see Sulfuric acid, fuming												
Organic peroxide type A, liquid or solid	Forbidden											
Organic peroxide type B, liquid	5.2	UN3101	II	ORGANIC PEROXIDE, EXPLOSIVE	53	152	225	None	Forbidden	Forbidden	D	12, 40
Organic peroxide type B, liquid, temperature controlled	5.2	UN3111	II	ORGANIC PEROXIDE, EXPLOSIVE.	53	None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type B, solid	5.2	UN3102	II	ORGANIC PEROXIDE, EXPLOSIVE.	53	152	225	None	Forbidden	Forbidden	D	12, 40
Organic peroxide type B, solid, temperature controlled	5.2	UN3112	II	ORGANIC PEROXIDE, EXPLOSIVE	53	None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type C, liquid	5.2	UN3103	II	ORGANIC PEROXIDE		152	225	None	5 L	10 L	D	12, 40
Organic peroxide type C, liquid, temperature controlled	5.2	UN3113	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type C solid	5.2	UN3104	II	ORGANIC PEROXIDE		152	225	None	5 kg	10 kg	D	12, 40
Organic peroxide type C, solid temperature controlled	5.2	UN3114	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type D, liquid	5.2	UN3105	II	ORGANIC PEROXIDE		152	225	None	5 L	10 L	D	12, 40
Organic peroxide type D, liquid, temperature controlled	5.2	UN3115	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type D, solid	5.2	UN3106	II	ORGANIC PEROXIDE		152	225	None	5 kg	10 kg	D	12, 40
Organic peroxide type D, solid, temperature controlled	5.2	UN3116	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type E, liquid	5.2	UN3107	II	ORGANIC PEROXIDE		152	225	None	10 L	25 L	D	12, 40
Organic peroxide type E, liquid, temperature controlled	5.2	UN3117	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type E, solid	5.2	UN3108	II	ORGANIC PEROXIDE		152	225	None	10 kg	25 kg	D	12, 40
Organic peroxide type E, solid, temperature controlled	5.2	UN3118	II	ORGANIC PEROXIDE		None	225	None	Forbidden	Forbidden	D	2, 40
Organic peroxide type F, liquid	5.2	UN3109	II	ORGANIC PEROXIDE		152	225	225	10 L	25 L	D	12 40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(6) Packaging authorizations (§173.xxx)			(7) Quantity limitations		(8) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Organic peroxide type F, liquid, temperature controlled	5.2	UN3119	II	ORGANIC PEROXIDE		225	225	None	Forbidden	Forbidden	D	5, 40
	Organic peroxide type F, solid	5.2	UN3110	II	ORGANIC PEROXIDE	T42	152	225	None	10 kg	25 kg	D	12, 40
	Organic peroxide type F, solid, temperature controlled	5.2	UN3120	II	ORGANIC PEROXIDE		225	225	None	Forbidden	Forbidden	D	5, 40
D	Organic phosphate, mixed with compressed gas *or* Organic phosphate compound, mixed with compressed gas *or* Organic phosphorus compound, mixed with compressed gas	2.3	NA1955		POISON GAS	3	None	334	None	Forbidden	Forbidden	D	40
	Organoarsenic compound, n.o.s.	6.1	UN3280	I	POISON		None	211	242	5 kg	50 kg	B	
				II	POISON	T14	None	212	242	25 kg	100 kg	B	
				III	KEEP AWAY FROM FOOD.	T7	153	213	240	100 kg	200 kg	A	
	Organochlorine pesticides liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2762	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	A	
	Organochlorine pesticides, liquid, toxic	6.1	UN2996	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD.	T14	153	203	241	60 L	220 L	A	40
	Organochlorine pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN2995	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1, T14	153	203	242	60 L	220 L	A	40
	Organochlorine pesticides, solid toxic	6.1	UN2761	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Organometallic compound *or* Compound solution *or* Compound dispersion, water-reactive, flammable, n.o.s.	4.3	UN3207	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID.		None	201	244	Forbidden	1 L	B	40
				II	DANGEROUS WHEN WET, FLAMMABLE LIQUID		None	202	243	1 L	5 L	B	40
				III	DANGEROUS WHEN WET, FLAMMABLE LIQUID.		None	203	242	5 L	60 L	E	40
	Organometallic compound, toxic n.o.s.	6.1	UN3282	I	POISON		None	211	242	5 kg	50 kg	B	
				II	POISON	T14	None	212	242	25 kg	100 kg	B	
				III	KEEP AWAY FROM FOOD.	T7	153	213	240	100 kg	200 kg	A	
	Organophosphorus compound, toxic, flammable, n.o.s.	6.1	UN3279	I	POISON, FLAMMABLE LIQUID.		None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
	Organophosphorus compound, toxic n.o.s.	6.1	UN3278	I	POISON		None	201	243	1 L	30 L	B	
				II	POISON	T14	None	202	243	5 L	60 L	B	
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Organophosphorus pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2784	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	40

				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	159	203	242	60 L	220 L	A		
	Organophosphorus pesticides, liquid, toxic	6.1	UN3018	I	POISON	N76, T42	None	201	243	1 L	30 L	B	40	
				II	POISON	N76 T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD	N76, T14	153	203	241	60 L	220 L	A	40	
	Organophosphorus pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN3017	I	POISON, FLAMMABLE LIQUID	N76, T42	None	201	243	1 L	30 L	B	40	
				II	POISON, FLAMMABLE LIQUID	N76 T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, N76, T14	153	203	242	60 L	220 L	A	40	
	Organophosphorus pesticides, solid, toxic	6.1	UN2783	I	POISON	N77	None	211	242	5 kg	50 kg	A	40	
				II	POISON	N77	None	212	242	25 kg	100 kg	A	40	
				III	KEEP AWAY FROM FOOD	N77	153	213	240	100 kg	200 kg	A	40	
	Organotin compounds, liquid, n.o.s	6.1	UN2788	I	POISON	A3, N33, N34, T42	None	201	243	1 L	30 L	B	40	
				II	POISON	A3, N33 N34, T14	None	202	243	5 L	60 L	A	40	
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40	
	Organotin compounds, solid, n.o.s	6.1	UN3146	I	POISON	A5	None	211	242	5 kg	50 kg	B	40	
				II	POISON		None	212	242	25 kg	100 kg	A	40	
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40	
	Organotin pesticides, liquid flammable, toxic, *flash point less than 23 degrees C*	3	UN2787	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40	
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40	
	Organotin pesticides, liquid, toxic	6.1	UN3020	I	POISON	T42	None	201	243	1 L	30 L	B	40	
				II	POISON	T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40	
	Organotin pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN3019	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40	
				II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40	
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1 T14	153	203	242	60 L	220 L	A	40	
	Organotin pesticides, solid, toxic	6.1	UN2786	I	POISON		None	211	242	5 kg	50 kg	A	40	
				II	POISON		None	212	242	25 kg	100 kg	A	40	
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40	
	Orthonitroaniline, see Nitroanilines etc													
	Osmium tetroxide	6.1	UN2471	I	POISON	A8, N33, N34	None	211	242	5 kg	50 kg	B	40	
AD	Other regulated substances, liquid, n.o.s	9	NA3082	III	CLASS 9		155	203	241	No limit	No limit	A		
AD	Other regulated substances, solid, n.o.s	9	NA3077	III	CLASS 9	B54	155	213	240	No limit	No limit	A		
	Oxidizing, liquid corrosive, n.o.s	5.1	UN3098	I	OXIDIZER, CORROSIVE		None	201	244	Forbidden	2.5 L	B	34, 56, 58, 69, 106	
				II	OXIDIZER, CORROSIVE		None	202	243	1 L	5 L	D	34, 56, 58, 69, 106	
				III	OXIDIZER CORROSIVE		152	203	242	2.5 L	30 L	B	34, 56, 59, 69 106	
	Oxidizing, liquid, n.o.s	5.1	UN3139	II	OXIDIZER	A2	152	202	242	1 L	5 L	B	56, 58, 69, 106	
				III	OXIDIZER	A2	152	203	241	2.5 L	30 L	B	56, 58 69 106	
	Oxidizing liquid toxic n.o.s	5.1	UN3099	I	OXIDIZER, POISON		None	201	244	Forbidden	2.5 L	D	56 58 95 106	
				II	OXIDIZER POISON		None	202	243	1 L	5 L	B	56 58, 95, 106	
				III	OXIDIZER KEEP AWAY FROM FOOD		152	203	242	2.5 L	30 L	B	56, 58, 95, 106	
	Oxidizing, solid, corrosive n.o.s	5.1	UN3085	I	OXIDIZER CORROSIVE		None	211	242	1 kg	15 kg	D	13, 34, 56, 58, 69, 106	
				II	OXIDIZER, CORROSIVE		None	212	242	5 kg	25 kg	B	13, 34, 56 58, 69, 106	
				III	OXIDIZER, CORROSIVE		152	213	240	25 kg	100 kg	B	13, 34, 56, 58, 69, 106	

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Labels required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.—)			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	Vessel stowage	Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Oxidizing, solid, flammable, n.o.s.	5.1	UN3137	I	OXIDIZER, FLAMMABLE SOLID		None	214	214	Forbidden	Forbidden		
	Oxidizing, solid, self-heating, n.o.s.	5.1	UN3100		OXIDIZER, SPONTANEOUSLY COMBUSTIBLE		None	214	214	Forbidden	Forbidden		
	Oxidizing solid, toxic, n.o.s.	5.1	UN3087	I	OXIDIZER, POISON		None	211	242	1 kg	15 kg	D	56, 58, 69, 95, 106
				II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	B	56, 58, 69, 95, 106
				III	OXIDIZER, KEEP AWAY FROM FOOD		152	213	240	25 kg	100 kg	B	56, 58, 69, 95, 106
	Oxidizing, solid, water-reactive, n.o.s.	5.1	UN3121		OXIDIZER, DANGEROUS WHEN WET		None	214	214	Forbidden	Forbidden		
	Oxidizing solid, n.o.s.	5.1	UN1479	I	OXIDIZER		152	211	242	1 kg	15 kg	D	56, 58, 69, 106
				II	OXIDIZER		152	212	240	5 kg	25 kg	B	56, 58, 69, 106
				III	OXIDIZER		152	213	240	25 kg	100 kg	B	56, 58, 69, 106
	Oxygen and carbon dioxide mixtures, see Carbon dioxide and oxygen mixtures												
	Oxygen, compressed	2.2	UN1072		NONFLAMMABLE GAS, OXIDIZER		306	302	314, 315	75 kg	150 kg	A	
	Oxygen difluoride	2.3	UN2190		POISON GAS, OXIDIZER, CORROSIVE	1	None	304	None	Forbidden	Forbidden	D	13, 40, 89, 90
	Oxygen, mixtures with rare gases, see Rare gases and oxygen mixtures												
	Oxygen, refrigerated liquid *(cryogenic liquid)*	2.2	UN1073		NONFLAMMABLE GAS, OXIDIZER		320	318	318	Forbidden	Forbidden	D	
	Paint *including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base*	3	UN1263	II	FLAMMABLE LIQUID	B52, T7, T30	150	173	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	173	242	60 L	220 L	A	
	Paint *or* Paint related material	8	UN3066	II	CORROSIVE	B2, N71, T14	154	202	242	1 L	30 L	A	
				III	CORROSIVE	B52, N71, T7	154	203	241	5 L	60 L	A	
	Paint related material *including paint thinning, drying, removing, or reducing compound*	3	UN1263	II	FLAMMABLE LIQUID	B52, T7, T30	150	173	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	173	242	60 L	220 L	A	
	Paper, unsaturated oil treated *incompletely dried (including carbon paper)*	4.2	UN1379	III	SPONTANEOUSLY COMBUSTIBLE		None	213	241	Forbidden	Forbidden	A	
	Paraformaldehyde	4.1	UN2213	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	
	Paraldehyde	3	UN1264	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Parantroaniline, solid, see Nitroanilines etc.												
D	Parathion	6.1	NA2783	I	POISON	T42	None	201	243	Forbidden	1 L	A	40
				II	POISON	T14	None	202	243	Forbidden	5 L	A	40
D	Parathion and compressed gas mixture	2.3	NA1967		POISON GAS	3	None	334	245	Forbidden	Forbidden	E	40
	Paris green, solid, see Copper acetoarsenite												
A,W	PCB, *see* Polychlorinated biphenyls												
+	Pentaborane	4.2	UN1380	I	SPONTANEOUSLY COMBUSTIBLE, POISON	1	None	206	246	Forbidden	Forbidden	D	
	Pentachloroethane	6.1	UN1669	II	POISON	T14	None	202	243	5 L	60 L	A	40
	Pentachlorophenol	6.1	UN3155	II	POISON		None	212	242	25 kg	100 kg	A	
	Pentaerythrite tetranitrate (dry)	Forbidden											
	Pentaerythrite tetranitrate *or* Pentaerythritol tetranitrate *or* PETN, *with not less than 7 percent wax by mass*	1.1D	UN0411	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
D	Pentaerythrite tetranitrate, wetted *or* Pentaerythritol tetranitrate, wetted, *or* PETN, wetted *with not less than 25 percent water, by mass, or* Pentaerythrite tetranitrate *or* Pentaerythritol tetranitrate *or* PETN, desensitized *with not less than 15 percent phlegmatizer by mass*	1.1D	UN0150	II	EXPLOSIVE 1.1D	25	None	62	None	Forbidden	Forbidden	B	1E, 5E
	Pentaerythritol tetranitrate, *see* Pentaerythrite tetranitrate, etc.												
	Pentafluoroethane	2.2	UN3220		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
	Pentamethylheptane	3	UN2286	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Pentan-2,4-dione	3	UN2310	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Pentanes	3	UN1265	II	FLAMMABLE LIQUID	T20	150	201	243	1 L	30 L	E	

			II	FLAMMABLE LIQUID	T20	150	202	242	5 L	60 L	E	
Pentanitroaniline (dry)	Forbidden											
1-Pentol	8	UN2705	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	B	38
Pentolite, *dry or wetted with less than 15 percent water, by mass*	1.1D	UN0151	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Percarbonates, inorganic, n.o.s.	5.1	UN3217	III	OXIDIZER		152	213	240	25 kg	100 kg	A	13
Perchlorates, inorganic, aqueous solution, n.o.s	5.1	UN3211	II	OXIDIZER	T8	152	202	242	1 L	5 L	B	46, 56, 58
Perchlorates, inorganic, n.o.s.	5.1	UN1481	II	OXIDIZER		152	212	242	5 kg	25 kg	A	46, 56
			III	OXIDIZER		152	213	240	25 kg	100 kg	A	46 56
Perchloric acid with more than 72 percent acid by mass	Forbidden											
Perchloric acid *with more than 50 percent but not more than 72 percent acid, by mass*	5.1	UN1873	I	OXIDIZER, CORROSIVE	A2, A3, N41, T9, T27	None	201	243	Forbidden	2.5 L	D	66
Perchloric acid *with not more than 50 percent acid by mass*	8	UN1802	II	CORROSIVE, OXIDIZER	N41, T9	None	202	243	Forbidden	30 L	C	66
Perchloroethylene, see Tetrachloroethylene												
Perchloromethylmercaptan	6.1	UN1670	I	POISON	2, A3, A7, B9, B14, B32, B74, N34, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
Perchloryl fluoride	2.3	UN3083		POISON GAS, OXIDIZER.	2, 25, B9, B12, B14	None	302	314, 315	Forbidden	Forbidden	D	40
Percussion caps, see Primers cap type												
Perfluoro-2-butene, see Octafluorobut-2-ene												
Perfluoroethylvinyl ether	2.1	UN3154		FLAMMABLE GAS		306	302, 304, 305	314, 315	Forbidden	150 kg	E	40
Perfluoromethylvinyl ether	2.1	UN3153		FLAMMABLE GAS		306	302, 304, 305	314, 315	Forbidden	150 kg	E	40
Perfumery products *with flammable solvents*	3	UN1266	II	FLAMMABLE LIQUID	T7, T30	150	202	242	15 L	60 L	B	
			III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
Permanganates, inorganic, aqueous solution, n.o.s	5.1	UN3214	II	OXIDIZER	26, T8	152	202	242	1 L	5 L	D	56, 58, 69, 106, 107
Permanganates, inorganic, n.o.s	5.1	UN1482	II	OXIDIZER	26, A30	152	212	242	5 kg	25 kg	D	56, 58 69 106, 107
			III	OXIDIZER	26, A30	152	213	240	25 kg	100 kg	D	56, 58, 69, 106, 107
Peroxides, inorganic, n.o.s	5.1	UN1483	II	OXIDIZER	A7, A20, N34	None	212	242	5 kg	25 kg	A	13, 75, 106
			III	OXIDIZER	A7, A20, N34	152	213	240	25 kg	100 kg	A	13, 75 106
Peroxyacetic acid, with more than 43 percent and with more than 6 percent hydrogen peroxide	Forbidden											
Persulphates, inorganic, aqueous solution, n.o.s	5.1	UN3216	III	OXIDIZER	T2	152	203	241	2.5 L	30 L	A	
Persulphates, inorganic, n.o.s.	5.1	UN3215	III	OXIDIZER		152	213	240	25 kg	100 kg	A	
Pesticides, liquid, flammable, toxic, (flashpoint less than 23 degrees C)	3	UN3021	I	FLAMMABLE LIQUID, POISON	B5	None	201	243	Forbidden	30 L	B	
			II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	
			III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	B	
Pesticides, liquid, toxic, flammable, n.o.s *flashpoint not less than 23 degrees C*	6.1	UN2903	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
			II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1, T14	153	203	242	60 L	220 L	A	40
Pesticides, liquid, toxic, n.o.s	6.1	UN2902	I	POISON	T42	None	201	243	1 L	30 L	B	40
			II	POISON	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
Pesticides, solid, toxic, n.o.s.	6.1	UN2588	I	POISON		None	211	242	5 kg	50 kg	A	40
			II	POISON		None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
PETN, *see* Pentaerythrite tetranitrate												
PETN/TNT, *see* Pentolite, *etc.*												
Petrol, *see* Gasoline												
Petroleum crude oil	3	UN1267	I	FLAMMABLE LIQUID	T8, T31	None	201	243	1 L	30 L	E	
			II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
			III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
Petroleum distillates, n.o.s. *or* Petroleum products, n.o.s	3	UN1268	I	FLAMMABLE LIQUID	T8, T31	150	201	243	1 L	30 L	E	
			II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
			III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
Petroleum ether, see Petroleum spirit												

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.—) Exceptions (8A)	Non-bulk packagings (8B)	Bulk packagings (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Petroleum gases, liquefied *or* Liquefied petroleum gas	2.1	UN1075		FLAMMABLE GAS		305	304	314 315	Forbidden	150 kg	E	40
	Petroleum naphtha, see Naphtha, *petroleum*												
	Phenacyl bromide	6.1	UN2645	II	POISON		None	212	242	25 kg	100 kg	B	40
	Phenetidines	6.1	UN2311	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Phenol, molten	6.1	UN2312	II	POISON	B14, T8	None	202	243	Forbidden	Forbidden	B	40
+	Phenol, solid	6.1	UN1671	II	POISON	N76, T14	None	212	242	25 kg	100 kg	A	
	Phenol solutions	6.1	UN2821	II	POISON	T14	None	202	243	5 L	60 L	A	
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Phenolsulfonic acid, liquid	8	UN1803	II	CORROSIVE	B2, N41, T8	154	202	242	1 L	30 L	C	14
	Phenoxy pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2766	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A	
	Phenoxy pesticides, liquid, toxic	6.1	UN3000	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Phenoxy pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*	6.1	UN2999	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	A	40
	Phenoxy pesticides, solid, toxic	6.1	UN2765	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
+	Phenyl isocyanate	6.1	UN2487	II	POISON	2, A3, B9, B14, B32, B74, B77, N33, N34, T38, T43, T45	None	227	244	5 L	60 L	D	40
	Phenyl mercaptan	6.1	UN2337	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	26, 40
	Phenyl phosphorus dichloride	8	UN2798	II	CORROSIVE	B2, B15, T8, T26	154	202	242	Forbidden	30 L	B	40
	Phenyl phosphorus thiodichloride	8	UN2799	II	CORROSIVE	B2, B15, T8, T26	154	202	242	Forbidden	30 L	B	40
	Phenyl urea pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2768	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A	
	Phenyl urea pesticides, liquid, toxic	6.1	UN3002	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Phenyl urea pesticides, liquid, toxic, flammable, *flash point not less than 23 degrees C*	6.1	UN3001	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40

			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	A	40
Phenyl urea pesticides, solid, toxic	6.1	UN2767	I	POISON		None	211	242	5 kg	50 kg	A	40
			II	POISON		None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
Phenylacetonitrile, liquid	6.1	UN2470	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A	26
Phenylacetyl chloride	8	UN2577	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	C	40
Phenylcarbylamine chloride	6.1	UN1672	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
Phenylchloroformate	6.1	UN2746	II	POISON, CORROSIVE	T12	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
m-Phenylene diaminediperchlorate (dry)	Forbidden											
Phenylenediamines (*o-*, *m-*, *p-*)	6.1	UN1673	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
Phenylhydrazine	6.1	UN2572	II	POISON	T8	None	202	243	5 L	60 L	A	40
Phenylmercuric acetate	6.1	UN1674	II	POISON		None	212	242	25 kg	100 kg	A	
Phenylmercuric compounds, n.o.s	6.1	UN2026	I	POISON		None	211	242	5 kg	50 kg	A	
			II	POISON		None	212	242	25 kg	100 kg	A	
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
Phenylmercuric hydroxide	6.1	UN1894	II	POISON		None	212	242	25 kg	100 kg	A	
Phenylmercuric nitrate	6.1	UN1895	II	POISON		None	212	242	25 kg	100 kg	A	
Phenyltrichlorosilane	8	UN1804	II	CORROSIVE	A7, B6, N34, T8	None	202	242	Forbidden	30 L	C	40
Phosgene	2.3	UN1076		POISON GAS, CORROSIVE	1, B7, B46	None	192	314	Forbidden	Forbidden	D	40
9-Phosphabicyclononanes *or* Cyclooctadiene phosphines	4.2	UN2940	II	SPONTANEOUSLY COMBUSTIBLE.	A19	None	212	241	15 kg	50 kg	A	
Phosphine	2.3	UN2199		POISON GAS, FLAMMABLE GAS	1	None	192	245	Forbidden	Forbidden	D	40
Phosphoric acid	8	UN1805	III	CORROSIVE	A7, N34, T7	154	203	241	5 L	60 L	A	
Phosphoric acid triethylenelmine, see Tri-(1-aziridyl) phosphine oxide, solution												
Phosphoric anhydride, see Phosphorus pentoxide												
Phosphorous acid	8	UN2834	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	48
Phosphorus, amorphous	4.1	UN1338	III	FLAMMABLE SOLID	A1, A19, B1, B9, B12, B26	None	213	243	25 kg	100 kg	A	74
Phosphorus bromide, see Phosphorus tribromide												
Phosphorus chloride, see Phosphorus trichloride												
Phosphorus heptasulfide, *free from yellow or white phosphorus*	4.1	UN1339	II	FLAMMABLE SOLID	A20, N34	None	212	240	15 kg	50 kg	B	74
Phosphorus oxybromide	8	UN1939	II	CORROSIVE	B8, N41, N43	None	212	240	Forbidden	50 kg	C	12, 40
Phosphorus oxybromide, molten	8	UN2576	II	CORROSIVE	B2, B8, N41, N43 T8, T27	None	202	242	Forbidden	Forbidden	C	40
+ Phosphorus oxychloride	8	UN1810	II	CORROSIVE, POISON	2, A7, B9, B14, B32, B74, B77, N34, T38, T43, T45	None	227	244	Forbidden	30 L	C	40
Phosphorus pentabromide	8	UN2691	II	CORROSIVE	A7, N34	154	212	240	Forbidden	50 kg	B	12 40
Phosphorus pentachloride	8	UN1806	II	CORROSIVE	A7, N34	None	212	240	Forbidden	50 kg	C	40
Phosphorus pentafluoride	2.3	UN2198		POISON GAS, CORROSIVE	1	None	302	None	Forbidden	Forbidden	D	40
Phosphorus pentasulfide, *free from yellow or white phosphorus*	4.3	UN1340	II	DANGEROUS WHEN WET	A20 B59	None	212	242	15 kg	50 kg	B	74
Phosphorus pentoxide	8	UN1807	II	CORROSIVE	A7, N34	154	212	240	15 kg	50 kg	A	
Phosphorus sesquisulfide, *free from yellow or white phosphorus*	4.1	UN1341	II	FLAMMABLE SOLID	A20, N34	None	212	240	15 kg	50 kg	B	74
Phosphorus tribromide	8	UN1808	II	CORROSIVE	A3, A6, A7, B2, B25, N34, N43, T8	None	202	242	Forbidden	30 L	C	40
+ Phosphorus trichloride	8	UN1809	I	CORROSIVE, POISON	2, A3, A7, B9 B14, B15, B32, B74, B77, N34, T38, T43, T45	None	227	244	Forbidden	2.5 L	C	40
Phosphorus trioxide	8	UN2578	III	CORROSIVE		154	213	240	25 kg	100 kg	A	12
Phosphorus trisulfide, *free from yellow or white phosphorus*	4.1	UN1343	II	FLAMMABLE SOLID	A20, N34	None	212	240	15 kg	50 kg	B	74
Phosphorus, white dry *or* Phosphorus, white, under water *or* Phosphorus white in solution *or* Phosphorus yellow dry *or* Phosphorus, yellow, under water *or* Phosphorus, yellow, in solution	4.2	UN1381	I	SPONTANEOUSLY COMBUSTIBLE POISON	B9, B12, B26, N34, T15, T26, T33.	None	188	243	Forbidden	Forbidden	E	
Phosphorus white, molten	4.2	UN2447	I	SPONTANEOUSLY COMBUSTIBLE, POISON	B9, B12, B26, N34, T15, T26, T29	None	188	243	Forbidden	Forbidden	D	
Phosphorus (white or red) and a chlorate, mixtures of	Forbidden											

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.**) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Phosphoryl chloride, see Phosphorus oxychloride												
	Phthalic anhydride *with more than .05 percent maleic anhydride*	8	UN2214	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	
	Phthalimide derivative pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2774	I	FLAMMABLE LIQUID, POISON.		None	201	242	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON.		None	202	242	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	A	
	Phthalimide derivative pesticides, liquid, toxic	6.1	UN3008	I	POISON	T42	None	201	242	1 L	30 L	B	40
				II	POISON	T14	None	202	242	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD.	T15	153	203	241	50 L	220 L	A	40
	Phthalimide derivative pesticides, liquid, toxic, flammable *flashpoint not less than 23 degrees C*	6.1	UN3007	I	POISON, FLAMMABLE LIQUID.	T42	None	201	242	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	242	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	T15	153	203	242	60 L	220 L	A	40
	Phthalimide derivative pesticides, solid, toxic	6.1	UN2773	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
	Picolines	3	UN2313	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	40
	Picric acid, *see* Trinitrophenol, etc.												
D	Picric acid, wet, *with not less than 10 percent water*	4.1	NA1344	II	FLAMMABLE SOLID	A19, A20, N41	None	211	None	Forbidden	Forbidden	D	
	Picrite, *see* Nitroguanidine, etc.												
	Picryl chloride, *see* Trinitrochlorobenzene												
	Pine oil	3	UN1272	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	alpha-Pinene	3	UN2368	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Piperazine	8	UN2579	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	12
	Piperidine	3	UN2401	II	FLAMMABLE LIQUID, CORROSIVE.	T2	None	203	243	1 L	5 L	B	
	Pivaloyl chloride, see Trimethyl acetyl chloride												
A	Plastic molding material *in dough, sheet or extruded rope form*	9		III	CLASS 9		155	213	None	100 kg	200 kg	A	
	Plastic solvent, n.o.s., see Flammable liquids, n.o.s.												
	Plastics, nitrocellulose-based, self-heating, n.o.s.	4.2	UN2006	III	SPONTANEOUSLY COMBUSTIBLE.		None	213	None	Forbidden	Forbidden	C	
	Poisonous gases, n.o.s., see Compressed *or* liquefied gases, flammable *or* toxic, n.o.s.												
	Polyalkylamines, n.o.s., *see* Alkylamines, etc.												
AW	Polychlorinated biphenyls	9	UN2315	II	CLASS 9	9, B1	155	202	241	100 L	220 L	A	34
	Polyester resin kit	3	UN3269	II	FLAMMABLE LIQUID	40	None	226	None	5 kg	5 kg	B	
	Polyhalogenated biphenyls, liquid or Polyhalogenated terphenyls liquid	9	UN3151	II	CLASS 9		155	204	241	100 L	220 L	A	34
	Polyhalogenated biphenyls, solid *or* Polyhalogenated terphenyls, solid	9	UN3152	II	CLASS 9		155	204	241	100 kg	200 kg	A	34
	Polymeric beads, expandable, *evolving flammable vapor*	9	UN2211	III	None	32	155	221	240	100 kg	200 kg	A	34, 57
	Potassium	4.3	UN2257	I	DANGEROUS WHEN WET.	A19, A20, B27, N6, N34, T19, T26	None	211	244	1 kg	15 kg	C	
	Potassium arsenate	6.1	UN1677	II	POISON		None	212	242	25 kg	100 kg	A	
	Potassium arsenite	6.1	UN1678	II	POISON		None	212	242	25 kg	100 kg	A	
	Potassium bisulfite solution, *see* Bisulfites, inorganic, aqueous solutions, n.o.s.												
	Potassium borohydride	4.3	UN1870	I	DANGEROUS WHEN WET.	A19, N40	None	211	242	Forbidden	15 kg	C	
	Potassium bromate	5.1	UN1484	II	OXIDIZER		152	213	242	5 kg	25 kg	A	56, 58, 106
	Potassium carbonyl	Forbidden											
	Potassium chlorate	5.1	UN1485	II	OXIDIZER	A9, N34	152	212	242	5 kg	25 kg	A	56, 58, 106
	Potassium chlorate, aqueous solution	5.1	UN2427	II	OXIDIZER	A2, T8	152	202	241	1 L	5 L	B	56, 58, 106
	Potassium chlorate mixed with mineral oil, see Explosive, blasting, type D												
	Potassium cuprocyanide	6.1	UN1679	II	POISON		None	212	242	25 kg	100 kg	A	28

Potassium cyanide	6.1	UN1680	I	POISON	B69, B77 N74 N75, T18, T26	None	211	242	5 kg	50 kg	B	52
Potassium dichloro isocyanurate or Potassium dichloro-s-triazinetrione, see Dichloroisocyanuric acid, dry or Dichloroisocyanuric acid salts *etc*												
Potassium dithionite or Potassium hydrosulfite	4.2	UN1929	II	SPONTANEOUSLY COMBUSTIBLE.	A8, A19, A20	None	212	241	15 kg	50 kg	E	13
Potassium fluoride	6.1	UN1812	III	KEEP AWAY FROM FOOD	T9	153	213	240	100 kg	200 kg	A	26
Potassium fluoroacetate	6.1	UN2628	I	POISON		None	211	242	5 kg	50 kg	E	
Potassium fluorosilicate	6.1	UN2655	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	26
Potassium hydrate, see Potassium hydroxide, solid												
Potassium hydrogen fluoride, see Potassium bifluoride												
Potassium hydrogen fluoride solution, see Corrosive liquid, n.o.s												
Potassium hydrogen sulfate	8	UN2509	II	CORROSIVE	A7, N34	154	212	240	15 kg	50 kg	A	
Potassium hydrogendifluoride, *solid*	8	UN1811	II	CORROSIVE, POISON	N3, N34, T8	154	212	240	15 kg	50 kg	A	25 26, 40
Potassium hydrogendifluoride, *solution*	8	UN1811	II	CORROSIVE, POISON	N3, N34, T8	154	202	243	1 L	30 L	A	26, 40, 95
Potassium hydrosulfite, *see* Potassium dithionite												
Potassium hydroxide, liquid, see Potassium hydroxide solution												
Potassium hydroxide, solid	8	UN1813	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
Potassium hydroxide, solution	8	UN1814	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
			III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
Potassium hypochlorite solution, see Hypochlorite solutions, *etc.*												
Potassium, metal alloys	4.3	UN1420	I	DANGEROUS WHEN WET	A19, A20, B27	None	211	244	1 kg	15 kg	D	
Potassium metal, liquid alloy, see Alkali metal alloys, liquid												
Potassium metavanadate	6.1	UN2864	II	POISON		None	212	242	25 kg	100 kg	A	
Potassium monoxide	8	UN2033	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
Potassium nitrate	5.1	UN1486	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
Potassium nitrate and sodium nitrite mixtures	5.1	UN1487	II	OXIDIZER	B12, B78	152	212	240	5 kg	25 kg	A	56, 58
Potassium nitrite	5.1	UN1488	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58
Potassium perchlorate, solid	5.1	UN1489	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106
Potassium perchlorate, solution	5.1	UN1489	II	OXIDIZER		152	202	242	1 L	5 L	A	56, 58, 106
Potassium permanganate	5.1	UN1490	II	OXIDIZER	B12	152	212	240	5 kg	25 kg	D	56, 58, 59, 106, 107
Potassium peroxide	5.1	UN1491	I	OXIDIZER	A20, N34	None	211	None	Forbidden	15 kg	B	13, 75, 106
Potassium persulfate	5.1	UN1492	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
Potassium phosphide	4.3	UN2012	I	DANGEROUS WHEN WET, POISON.	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
Potassium salts of aromatic nitro-derivatives, *explosive*	1.3C	UN0158	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
Potassium selenate, *see* Selenates or Selenites												
Potassium selenite, *see* Selenates or Selenites												
Potassium sodium alloys	4.3	UN1422	I	DANGEROUS WHEN WET	A19 B27, N34 N40, T15, T26	None	211	244	Forbidden	15 kg	D	
Potassium sulfide, anhydrous or Potassium sulfide *with less than 30 percent water of crystallization*	4.2	UN1382	II	SPONTANEOUSLY COMBUSTIBLE.	A19, A20, B16, N34.	None	212	241	15 kg	50 kg	A	
Potassium sulfide, hydrated *with not less than 30 percent water of crystallization*	8	UN1847	II	CORROSIVE		154	212	240	15 kg	50 kg	A	26
Potassium superoxide	5.1	UN2466	I	OXIDIZER	A20	None	211	None	Forbidden	15 kg	B	13, 75, 106
Powder cake, wetted or Powder paste, wetted *with not less than 17 percent alcohol by mass*	1.1C	UN0433	II	EXPLOSIVE 1.1C		None	62	None	Forbidden	Forbidden	B	1E, 5E
Powder cake, wetted or Powder paste, wetted *with not less than 25 percent water, by mass*	1.3C	UN0159	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
Powder paste, *see* Powder cake, *etc.*												
Powder, smokeless	1.1C	UN0160	II	EXPLOSIVE 1.1C		None	62	None	Forbidden	Forbidden	B	10E, 26E
Powder, smokeless	1.3C	UN0161	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	10E, 26E
Power device, explosive, see Cartridges, power device												
Primers, cap type	1.4S	UN0044	II	None		None	62	None	25 kg	100 kg	A	
Primers, cap type	1.1B	UN0377	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
Primers, cap type	1.4B	UN0378	II	EXPLOSIVE 1.4B		None	62	None	Forbidden	75 kg	A	24E
Primers, small arms, see Primers, cap type												
Primers, tubular	1.3G	UN0319	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
Primers, tubular	1.4G	UN0320	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
Primers, tubular	1.4S	UN0376	II	None		None	62	None	25 kg	100 kg	A	
Printing ink, *flammable*	3	UN1210	I	FLAMMABLE LIQUID	T8, T31	150	173	243	1 L	30 L	E	
			II	FLAMMABLE LIQUID	T7, T30	150	173	242	5 L	60 L	B	
			III	FLAMMABLE LIQUID	B1, T7, T30	150	173	242	60 L	220 L	A	
Projectiles, illuminating, see Ammunition, illuminating, *etc.*												
Projectiles *inert with tracer*	1.4S	UN0345	II	EXPLOSIVE 1.4S			62	None	25 kg	100 kg	A	3E 7E 9E
Projectiles, *inert, with tracer*	1.3G	UN0424	II	EXPLOSIVE 1.3G			62	None	Forbidden	Forbidden	B	3E, 7E
Projectiles, *inert, with tracer*	1.4G	UN0425	II	EXPLOSIVE 1.4G			62	None	Forbidden	75 kg	A	3E, 7E 24E
Projectiles, *with burster or expelling charge*	1.2D	UN0346	II	EXPLOSIVE 1.2D			62	None	Forbidden	Forbidden	B	3E, 7E
Projectiles, *with burster or expelling charge*	1.4D	UN0347	II	EXPLOSIVE 1.4D			62	None	Forbidden	75 kg	A	3E, 7E 24E
Projectiles, *with burster or expelling charge*	1.2F	UN0426	II	EXPLOSIVE 1.2F			62	None	Forbidden	Forbidden	E	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division number	Identification numbers	Packing group	Label codes	Special provisions	Packaging authorizations (§173.***)			Quantity limitations		Vessel stowage requirements
							Exceptions	Non-bulk packaging	Bulk packaging	Passenger aircraft or rail car	Cargo aircraft only	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)
	Projectiles with burster or expelling charge	1.1F	UN0042	II	EXPLOSIVE 1F		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles with burster or expelling charge	1.2D	UN0434	II	EXPLOSIVE 2D		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles with burster or expelling charge	1.2F	UN0035	II	EXPLOSIVE 2F		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles with burster or expelling charge	1.3C	UN0167	II	EXPLOSIVE 3C		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles with burster or expelling charge	1.3D	UN0168	II	EXPLOSIVE 3D		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles with burster or expelling charge	1.3F	UN0169	II	EXPLOSIVE 3F		None	62	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles, inhibited	1.4D	UN0344	II	EXPLOSIVE 4D		None	63	None	Forbidden	Forbidden	35, 7E, 24E
	Projectiles, inhibited	1.4S	UN0351	II	FLAMMABLE GAS		None	604	314, 315	Forbidden	150 kg	30
	Propadiene mixed with methyl acetylene, see Methyl acetylene and propadiene mixtures, stabilized											
	Propanal, see Propionaldehyde											
	Propane	2.1	UN1978		FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	40
	n-Propanol, see Propyl alcohol, normal	3	UN1274	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	40
	n-Propanol or Propyl alcohol, normal	3	UN1274	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	86, 102
	n-Propanol, azeotrope with water	3	UN1274	II	FLAMMABLE LIQUID	B1, T1	150	202	242	60 L	220 L	40
	Propargyl alcohol	3	NA1986	II	FLAMMABLE LIQUID, POISON		None	202	243	Forbidden	1 L	40
D	Propellant, solid, n.o.s.	1.1C	NA0474	II	EXPLOSIVE 1C		None	62	None	Forbidden	Forbidden	35, 5E
D	Propellant, solid, n.o.s.	1.3C	NA0477	II	EXPLOSIVE 3C		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, liquid, n.o.s.	1.3C	UN0495	II	EXPLOSIVE 3C		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, liquid, n.o.s.	1.1D	UN0497	II	EXPLOSIVE 1D		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, solid, n.o.s.	1.1C	UN0160	II	EXPLOSIVE 1C		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, solid, n.o.s.	1.3C	UN0161	II	EXPLOSIVE 3C		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, solid	1.3C	UN0438	II	EXPLOSIVE 3C		None	62	None	Forbidden	Forbidden	35, 5E
	Propellant, solid	1.4C	UN0439	II	EXPLOSIVE 4C		None	62	None	Forbidden	Forbidden	35, 5E
	Propylene	2.1	UN1077	II	FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	40
	Propylene oxide	3	UN1280	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	40
	Propylene tetramer	3	UN2850	III	FLAMMABLE LIQUID	T2	150	202	242	60 L	220 L	40
	Propyleneimine, inhibited	6.1	UN1921	I	POISON, FLAMMABLE LIQUID	T14	None	201	None	Forbidden	Forbidden	40
	Propyl formates	3	UN1281	II	FLAMMABLE LIQUID	T8, T28	None	202	242	5 L	60 L	40
	n-Propyl isocyanate	6.1	UN2482	I	POISON, FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	40
	n-Propyl nitrate	3	UN1865	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	40
	Propylene oxide	3	UN1280	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	40
	n-Propyl chloride	3	UN1278	II	FLAMMABLE LIQUID	T8, T28	150	202	242	5 L	60 L	40
	n-Propyl chloroformate	6.1	UN2740	I	POISON, FLAMMABLE LIQUID, CORROSIVE	B1, T1 B14, B32, B74, B77, N34, T38, T45, T46	None	201	None	Forbidden	Forbidden	21, 40, 100
	Propyl formates	3	UN1281	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	40
	n-Butyl isocyanate	6.1	UN2482	I	POISON, FLAMMABLE LIQUID	T4, T44	None	201	None	Forbidden	Forbidden	40
	Propyl mercaptans, see Propanethiols											
	n-Propyl nitrate	3	UN1865	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	40
	Propylamine	3	UN1277	II	FLAMMABLE LIQUID, CORROSIVE	N34, T8	None	202	242	1 L	60 L	40
	Propylene, see Propylene, refrigerated liquid											
	Propylene chlorohydrin	2.3	UN1077	II	FLAMMABLE GAS	T8	306	304	314, 315	Forbidden	150 kg	40
	Propylene dichloride	6.1	UN2611	II	POISON	T8	None	202	243	5 L	60 L	12, 40, 48
	Propylene glycol	3	UN1279	III	FLAMMABLE LIQUID	N36, T1	150	202	242	5 L	60 L	40
	Propylene trimer	3	UN1993	II	FLAMMABLE LIQUID	A9, N34, T28	None	201	None	Forbidden	Forbidden	40
	Propylene tetramer	3	UN2850	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	40
	n-Propyltrichlorosilane	8	UN1816	II	CORROSIVE, FLAMMABLE LIQUID	A9, N34, T28	None	202	243	1 L	5 L	40
	Pyrophoric liquid, n.o.s.	4.2	UN2845	I	SPONTANEOUSLY COMBUSTIBLE, POISON	A9, N34, T28	None	201	None	Forbidden	Forbidden	40
	Pyrophoric solid, n.o.s.	4.2	UN2846	I	SPONTANEOUSLY COMBUSTIBLE, POISON	A9, N34, T28	None	201	None	Forbidden	Forbidden	40
	Pyridine	3	UN1282	II	FLAMMABLE LIQUID	A9, B2, B6, N34, T8, T26	None	202	242	5 L	60 L	21, 100
	Pyridine perchlorate	6.1	UN1282	II	POISON		Forbidden					

Pyrophoric liquid, inorganic, n.o.s	4.2	UN3194	I	SPONTANEOUSLY COMBUSTIBLE.		None	181	244	Forbidden	Forbidden	D	18
Pyrophoric liquids, organic, n.o.s	4.2	UN2845	I	SPONTANEOUSLY COMBUSTIBLE	B11, T42	None	181	244	Forbidden	Forbidden	D	18
Pyrophoric metals, n.o.s., *or* Pyrophoric alloys, n.o.s.	4.2	UN1383	I	SPONTANEOUSLY COMBUSTIBLE.	B11	None	187	242	Forbidden	Forbidden	D	
Pyrophoric organometallic compound, n.o.s.	4.2	UN3203	I	SPONTANEOUSLY COMBUSTIBLE.		None	187	242	Forbidden	Forbidden	D	
Pyrophoric solid, inorganic, n.o.s	4.2	UN3200	I	SPONTANEOUSLY COMBUSTIBLE.		None	187	242	Forbidden	Forbidden	D	
Pyrophoric solids, organic, n.o.s.	4.2	UN2846	I	SPONTANEOUSLY COMBUSTIBLE.		None	187	242	Forbidden	Forbidden	D	
Pyrosulfuryl chloride	8	UN1817	II	CORROSIVE	B2, T9, T27	154	202	242	1 L	30 L	C	40
Pyroxylin solution or solvent, see Nitrocellulose												
Pyrrolidine	3	UN1922	II	FLAMMABLE LIQUID, CORROSIVE.	T1	None	202	243	1 L	5 L	B	40
Quebrachitol pentanitrate	Forbidden											
Quicklime, see Calcium oxide												
Quinoline	6.1	UN2656	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	A	12
R 114, see Dichlorotetrafluoroethane												
R 115, see Chloropentafluoroethane												
R 116, see Hexafluoroethane												
R 124, see Chlorotetrafluoroethane												
R 133a, see Chlorotrifluoroethane												
R 152a, see Difluoroethane												
R 500, see Dichlorodifluoromethane and difluorethane, *etc.*												
R 502, see Chlorodifluoromethane and chloropentafluoroethane mixture, *etc.*												
R 503, see Chlorotrifluoromethane and trifluoromethane, *etc.*												
R 12, see Dichlorodifluoromethane												
R 12B1, see Chlorodifluorobromomethane												
R 13, see Chlorotrifluoromethane												
R 13B1, see Bromotrifluoromethane												
R 14, see Tetrafluoromethane												
R 21, see Dichlorofluoromethane												
R 22, see Chlorodifluoromethane												
Radioactive material, excepted package-articles manufactured from natural or depleted uranium or natural thorium	7	UN2910		None		421-1, 424	421-1, 424	421-1, 424			A	
Radioactive material, excepted package-empty packaging	7	UN2910		EMPTY		427	427	427			A	
Radioactive material, excepted package-instruments *or* articles	7	UN2910		None		421-1, 422	421-1, 422	421-1, 422			A	
Radioactive material, excepted package-limited quantity of material	7	UN2910		None		421, 421-1	421, 421-1	421, 421-1			A	
Radioactive material, fissile, n.o.s	7	UN2918		RADIOACTIVE		453	417	417			A	40, 95
Radioactive material, low specific activity, n.o.s. *or* Radioactive material, LSA, n.o.s.	7	UN2912		RADIOACTIVE		421, 422, 424	425	425			A	
Radioactive material, n.o.s	7	UN2982		RADIOACTIVE		421, 422, 424	415, 416	415, 416			A	40, 95
Radioactive material, special form, n.o.s.	7	UN2974		RADIOACTIVE		421, 422	415, 416	415, 416			A	
Railway torpedo, see Signals, railway track, explosive												
Rare gases and nitrogen mixtures	2.2	UN1981		NONFLAMMABLE GAS		306	302	None	75 kg	150 kg	A	
Rare gases and oxygen mixtures	2.2	UN1980		NONFLAMMABLE GAS		306	302	None	75 kg	150 kg	A	
Rare gases, mixtures	2.2	UN1979		NONFLAMMABLE GAS		306	302	None	75 kg	150 kg	A	
RC 318, see Octafluorocyclobutane												
RDX and cyclotetramethylenetetranitramine, wetted *or* desensitized *see* RDX and HMX mixtures, wetted or desensitized												
RDX and HMX mixtures, wetted *with not less than 15 percent water by mass or* RDX and HMX mixtures, desensitized *with not less than 10 percent phlegmatizer by mass*	1.1D	UN0391	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
RDX and Octogen mixtures, wetted *or* desensitized *see* RDX and HMX mixtures, wetted *or* desensitized *etc.*												
RDX, see Cyclotrimethylene trinitramine, *etc.*												
Receptacles, small, containing gas *flammable, without release device, not refillable and not exceeding 1 L capacity*	2.1	UN2037		FLAMMABLE GAS		306	304	None	1 kg	15 kg	B	40
Receptacles, small, containing gas *non-flammable, without release device, not refillable and not exceeding 1 L capacity*	2.2	UN2037		NONFLAMMABLE GAS		306	304	None	1 kg	16 kg	B	40
Red phosphorus, see Phosphorus, amorphous												
Refrigerant gases, n.o.s.	2.2	UN1078		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or railcar (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
D	Refrigerant gases, n.o.s. or Dispersant gases, n.o.s.	2.1	NA1954		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	D	40
D	Refrigerating machine	3	NA1993	III	FLAMMABLE LIQUID		174	174	None	30 L	10 L	A	
D	Refrigerating machines, *containing flammable, non-poisonous, liquefied gas*	2.1	NA1954		FLAMMABLE GAS		306	306	308	Forbidden	25 kg	C	40
	Refrigerating machines, *containing non-flammable, non-toxic, liquefied gas or ammonia solutions (UN2073)*	2.2	UN2857		NONFLAMMABLE GAS		306, 307	306	306, 307	Forbidden	150 kg	A	
D	Regulated medical waste	6.2	NA9275, UN3291	II	INFECTIOUS SUBSTANCE		197	197	None	Forbidden	Forbidden	E	
	Release devices, explosive	1.4S	UN0173	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Resin solution; *flammable*	3	UN1866	II	FLAMMABLE LIQUID	B52, T7, T30	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, B52, T7, T30	150	203	242	60 L	220 L	A	
	Resorcinol	6.1	UN2876	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Rifle grenade, see Grenades, *hand or rifle, etc.*												
	Rifle powder, see Powder, *smokeless (UN 0160)*												
	Rivets, explosive	1.4S	UN0174	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Road asphalt or tar liquid, see Tars, liquid, *etc.*												
	Rocket motors	1.3C	UN0186	II	EXPLOSIVE 1.3C	109	None	62	None	Forbidden	220 kg	B	
	Rocket motors	1.1C	UN0280	II	EXPLOSIVE 1.1C	109	None	62	None	Forbidden	Forbidden	B	
	Rocket motors	1.2C	UN0281	II	EXPLOSIVE 1.2C	109	None	62	None	Forbidden	Forbidden	B	
	Rocket motors, liquid fueled	1.2J	UN0395	II	EXPLOSIVE 1.2J	109	None	62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Rocket motors, liquid fueled	1.3J	UN0396	II	EXPLOSIVE 1.3J	109	None	62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Rocket motors with hypergolic liquids *with or without an expelling charge*	1.3L	UN0250	II	EXPLOSIVE 1.3L	109	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Rocket motors with hypergolic liquids *with or without an expelling charge*	1.2L	UN0322	II	EXPLOSIVE 1.2L	109	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Rockets, line-throwing	1.2G	UN0238	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
	Rockets, line-throwing	1.3G	UN0240	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Rockets, line-throwing	1.4G	UN0453	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Rockets, liquid fueled *with bursting charge*	1.1J	UN0397	II	EXPLOSIVE 1.1J		None	62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Rockets, liquid fueled *with bursting charge*	1.2J	UN0398	II	EXPLOSIVE 1.2J		None	62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Rockets, *with bursting charge*	1.1F	UN0180	II	EXPLOSIVE 1.1F		None	62	None	Forbidden	Forbidden	E	
	Rockets, *with bursting charge*	1.1E	UN0181	II	EXPLOSIVE 1.1E		None	62	None	Forbidden	Forbidden	B	
	Rockets, *with bursting charge*	1.2E	UN0182	II	EXPLOSIVE 1.2E		None	62	None	Forbidden	Forbidden	B	
	Rockets, *with bursting charge*	1.2F	UN0295	II	EXPLOSIVE 1.2F		None	62	None	Forbidden	Forbidden	E	
	Rockets, *with expelling charge*	1.2C	UN0436	II	EXPLOSIVE 1.2C		None	62	None	Forbidden	Forbidden	B	
	Rockets, *with expelling charge*	1.3C	UN0437	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Rockets, *with expelling charge*	1.4C	UN0438	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	24E
	Rockets, *with inert head*	1.3C	UN0183	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Rosin oil	3	UN1286	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Rubber solution	3	UN1287	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Rubidium	4.3	UN1423	I	DANGEROUS WHEN WET	22, A7, A19, N34, N40, N45	None	211	242	Forbidden	15 kg	D	
	Rubidium hydroxide	8	UN2678	II	CORROSIVE	T8	154	212	240	15 kg	50 kg	A	
	Rubidium hydroxide solution	8	UN2677	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
		8		III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Safety fuse, see Fuse, *safety*												
	Samples, explosive, *other than initiating explosives*		UN0190	II		113	None	62	None	Forbidden	Forbidden	E	12E
	Sand acid, see Fluorosilicic acid												
	Seed cake, *containing vegetable oil solvent extractions and expelled seeds, with not more than 10 percent of oil and when the amount of moisture is higher than 11 percent, with not more than 20 percent of oil and moisture combined*	4.2	UN1386	III	None	N7	None	213	241	Forbidden	Forbidden	A	13
I	Seed cake *with more than 1.5 percent oil and not more than 11 percent moisture*	4.2	UN1386	III	None	N7	None	213	241	Forbidden	Forbidden	E	13

I	Seed cake with not more than 1.5 percent oil and not more than 11 percent moisture	4.2	UN2217	III	None	N7	None	213	241	Forbidden	Forbidden	A	13
	Selenates or Selenites	6.1	UN2630	I	POISON		None	211	242	5 kg	50 kg	E	
	Selenic acid	8	UN1905	I	CORROSIVE	N34	None	211	242	Forbidden	25 kg	A	
	Selenites, see Selenates or Selenites												
	Selenium compound, n.o.s.	6.1	UN3283	I	POISON		None	211	242	5 kg	50 kg	B	
				II	POISON	T14	None	212	242	25 kg	100 kg	B	
				III	KEEP AWAY FROM FOOD	T7	153	213	240	100 kg	200 kg	A	
	Selenium disulfide	6.1	UN2657	II	POISON		None	212	242	25 kg	100 kg	A	
	Selenium hexafluoride	2.3	UN2194		POISON GAS, CORROSIVE.	1	None	302	None	Forbidden	Forbidden	D	40
	Selenium nitride	Forbidden											
D	Selenium oxide	6.1	NA2811	I	POISON		None	211	242	5 kg	50 kg	B	
	Selenium oxychloride	8	UN2879	I	CORROSIVE, POISON	A3, A6, A7, N34, T12, T27	None	201	243	0.5 L	2.5 L	E	40
	Selenium powder	6.1	UN2658	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Self-heating liquid, corrosive, inorganic, n.o.s	4.2	UN3188	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	202	243	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.		None	203	241	5 L	60 L	C	
	Self-heating liquid, corrosive, organic, n.o.s.	4.2	UN3185	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	202	243	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	203	241	5 L	60 L	C	
	Self-heating liquid, inorganic, n.o.s.	4.2	UN3186	II	SPONTANEOUSLY COMBUSTIBLE.		None	202	242	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE.		None	203	241	5 L	60 L	C	
	Self-heating liquid, organic, n.o.s.	4.2	UN3183	II	SPONTANEOUSLY COMBUSTIBLE.		None	202	242	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE.		None	203	241	5 L	60 L	C	
	Self-heating liquid, toxic, inorganic, n.o.s.	4.2	UN3187	II	SPONTANEOUSLY COMBUSTIBLE, POISON.		None	202	243	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE, KEEP AWAY FROM FOOD		None	203	241	5 L	60 L	C	
	Self-heating liquid, toxic, organic, n.o.s.	4.2	UN3184	II	SPONTANEOUSLY COMBUSTIBLE, POISON.		None	202	243	1 L	5 L	C	
				III	SPONTANEOUSLY COMBUSTIBLE, KEEP AWAY FROM FOOD		None	203	241	5 L	60 L	C	
	Self-heating solid, corrosive, inorganic, n.o.s	4.2	UN3192	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.		None	212	242	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.		None	213	242	25 kg	100 kg	C	
	Self-heating, solid, corrosive, organic, n.o.s.	4.2	UN3126	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.		None	212	242	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.		None	213	242	25 kg	100 kg	C	
	Self-heating solid, inorganic, n.o.s	4.2	UN3190	II	SPONTANEOUSLY COMBUSTIBLE.		None	212	241	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	25 kg	100 kg	C	
	Self-heating, solid, organic, n.o.s	4.2	UN3088	II	SPONTANEOUSLY COMBUSTIBLE.		None	212	241	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE.		None	213	241	25 kg	100 kg	C	
	Self-heating, solid, oxidizing, n.o.s.	4.2	UN3127		SPONTANEOUSLY COMBUSTIBLE, OXIDIZER.		None	214	214	Forbidden	Forbidden		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.—) Exceptions (8A)	(8) Packaging authorizations (§173.—) Non-bulk packaging (8B)	(8) Packaging authorizations (§173.—) Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	(9) Quantity limitations Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	(10) Vessel stowage requirements Other stowage provisions (10B)
	Self-heating solid, toxic, inorganic, n.o.s.	4.2	UN3191	II	SPONTANEOUSLY COMBUSTIBLE, POISON.		None	212	242	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE, KEEP AWAY FROM FOOD.		None	213	242	25 kg	100 kg	C	
	Self-heating, solid, toxic, organic, n.o.s.	4.2	UN3128	II	SPONTANEOUSLY COMBUSTIBLE, POISON.		None	212	242	15 kg	50 kg	C	
				III	SPONTANEOUSLY COMBUSTIBLE, KEEP AWAY FROM FOOD.		None	213	242	25 kg	100 kg	C	
	Self-propelled vehicle, see Vehicles, self-propelled												
	Self-reactive liquid type B	4.1	UN3221	II	FLAMMABLE SOLID	53	None	224	None	Forbidden	Forbidden	D	61
	Self-reactive liquid type B, temperature controlled	4.1	UN3231	II	FLAMMABLE SOLID	53	None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive liquid type C	4.1	UN3223	II	FLAMMABLE SOLID		None	224	None	5 L	10 L	D	61
	Self-reactive liquid type C, temperature controlled	4.1	UN3233	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive liquid type D	4.1	UN3225	II	FLAMMABLE SOLID		None	224	None	5 L	10 L	D	61
	Self-reactive liquid type D, temperature controlled	4.1	UN3235	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive liquid type E	4.1	UN3227	II	FLAMMABLE SOLID		None	224	None	10 L	25 L	D	61
	Self-reactive liquid type E, temperature controlled	4.1	UN3237	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive liquid type F	4.1	UN3229	II	FLAMMABLE SOLID		None	224	None	10 L	25 L	D	61
	Self-reactive liquid type F, temperature controlled	4.1	UN3239	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type B	4.1	UN3222	II	FLAMMABLE SOLID	53	None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type B, temperature controlled	4.1	UN3232	II	FLAMMABLE SOLID	53	None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type C	4.1	UN3224	II	FLAMMABLE SOLID		None	224	None	5 kg	10 kg	D	61
	Self-reactive solid type C, temperature controlled	4.1	UN3234	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type D	4.1	UN3226	II	FLAMMABLE SOLID		None	224	None	5 kg	10 kg	D	61
	Self-reactive solid type D, temperature controlled	4.1	UN3236	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type E	4.1	UN3228	II	FLAMMABLE SOLID		None	224	None	10 kg	25 kg	D	61
	Self-reactive solid type E, temperature controlled	4.1	UN3238	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Self-reactive solid type F	4.1	UN3230	II	FLAMMABLE SOLID		None	224	None	10 kg	25 kg	D	61
	Self-reactive solid type F, temperature controlled	4.1	UN3240	II	FLAMMABLE SOLID		None	224	None	Forbidden	Forbidden	D	2, 61
	Shale oil	3	UN1288	I	FLAMMABLE LIQUID	T7	None	201	243	1 L	30 L	B	
				II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Shaped charges, commercial, see Charges, shaped, commercial *etc.*												
	Signal devices, hand	1.4G	UN0191	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Signal devices, hand	1.4S	UN0373	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Signals, distress, *ship*	1.1G	UN0194	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, distress, *ship*	1.3G	UN0195	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Signals, highway, see Signal devices, hand; Fireworks, type D												
	Signals, railway track, explosive	1.1G	UN0192	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, railway track, explosive	1.4S	UN0193	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Signals, railway track, explosive	1.3G	UN0492	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	E	1E, 8E
	Signals, railway track, explosive	1.4G	UN0493	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Signals, ship distress, water-activated, see Contrivances, water-activated, *etc.*												
	Signals, smoke	1.1G	UN0196	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, smoke	1.4G	UN0197	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Signals, smoke	1.2G	UN0313	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
	Signals, smoke	1.3G	UN0487	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
	Silane	2.1	UN2203		FLAMMABLE GAS		None	302	None	Forbidden	Forbidden	E	40, 67, 104
	Silicofluoric acid, see Fluorosilicic acid												
	Silicon chloride, see Silicon tetrachloride												
	Silicon powder, amorphous	4.1	UN1346	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	A	
	Silicon tetrachloride	8	UN1818	II	CORROSIVE	A3, A6, B2, B6, T18, T26, T29	154	202	242	1 L	30 L	C	40
	Silicon tetrafluoride	2.3	UN1859		POISON GAS, CORROSIVE	2, 25	None	302	None	Forbidden	25 kg	D	40
	Silver acetylide (dry)	Forbidden											
	Silver arsenite	6.1	UN1683	II	POISON		None	212	242	25 kg	100 kg	A	
	Silver azide (dry)	Forbidden											

	Silver chlorate (dry)	Forbidden													
	Silver cyanide	6.1	UN1684	II	POISON		None	212	242	25 kg	100 kg	A	26, 40		
	Silver fulminate (dry)	Forbidden													
	Silver nitrate	5.1	UN1493	II	OXIDIZER		152	212	242	5 kg	25 kg	A			
	Silver oxalate (dry)	Forbidden													
	Silver picrate (dry)	Forbidden													
	Silver picrate, wetted *with not less than 30 percent water, by mass*	4.1	UN1347	I	FLAMMABLE SOLID		None	211	None	Forbidden	Forbidden	D	28 38		
	Sludge, acid	8	UN1906	II	CORROSIVE	A3, A7, B2, N34, T9, T27	None	202	242	Forbidden	30 L	C	14		
D	Smokeless powder for small arms (*100 pounds or less*)	4.1	NA3178	I	FLAMMABLE SOLID	16	None	171	None	Forbidden	Forbidden	A			
	Soda lime *with more than 4 percent sodium hydroxide*	8	UN1907	III	CORROSIVE		154	213	240	25 kg	100 kg	A			
	Sodium	4.3	UN1428	I	DANGEROUS WHEN WET.	A7, A8, A19, A20, B9, B28, B48, B68, N34, T15, T29, T46.	None	211	244	1 kg	15 kg	D			
	Sodium aluminate, solid	8	UN2812	III	CORROSIVE		154	213	240	25 kg	100 kg	A			
	Sodium aluminate, solution	8	UN1819	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A			
				III	CORROSIVE	T7	154	203	241	5 L	60 L	A			
	Sodium aluminum hydride	4.3	UN2835	II	DANGEROUS WHEN WET	A8, A19, A20	None	212	242	Forbidden	50 kg	E			
	Sodium ammonium vanadate	6.1	UN2863	II	POISON		None	212	242	25 kg	100 kg	A			
	Sodium arsanilate	6.1	UN2473	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A			
	Sodium arsenate	6.1	UN1685	II	POISON		None	212	242	25 kg	100 kg	A			
	Sodium arsenite, aqueous solutions	6.1	UN1686	II	POISON	T15	None	202	243	5 L	60 L	A			
				III	KEEP AWAY FROM FOOD.	T15	153	203	241	60 L	220 L	A			
	Sodium arsenite, solid	6.1	UN2027	II	POISON		None	212	242	25 kg	100 kg	A			
	Sodium azide	6.1	UN1687	II	POISON	B28	None	212	242	25 kg	100 kg	A	38, 52, 91		
	Sodium bifluoride, see Sodium hydrogen fluoride														
	Sodium bisulfate, solution, see Sodium hydrogen sulfate, solution														
	Sodium bisulfite, solution, see Bisulfites, inorganic, aqueous solutions, n.o.s.														
	Sodium borohydride	4.3	UN1426	I	DANGEROUS WHEN WET	N40	None	211	242	Forbidden	15 kg	E			
	Sodium bromate	5.1	UN1494	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106		
	Sodium cacodylate	6.1	UN1688	II	POISON		None	212	242	25 kg	100 kg	A	26		
	Sodium chlorate	5.1	UN1495	II	OXIDIZER	A9, N34, T8	152	212	240	5 kg	25 kg	A	56, 58, 106		
	Sodium chlorate, aqueous solution	5.1	UN2428	II	OXIDIZER	A2, B6, T8	152	202	241	1 L	5 L	B	56, 58, 106		
	Sodium chlorate mixed with dinitrotoluene, see Explosive blasting, type C														
	Sodium chlorite	5.1	UN1496	II	OXIDIZER	A9, N34, T8	None	212	242	5 kg	25 kg	A	56, 58, 106		
	Sodium chloroacetate	6.1	UN2659	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A			
	Sodium cuprocyanide, solid	6.1	UN2316	I	POISON		None	211	242	5 kg	50 kg	A	26		
	Sodium cuprocyanide, solution	6.1	UN2317	I	POISON	T8, T26	None	201	243	1 L	30 L	B	26, 40		
	Sodium cyanide	6.1	UN1689	I	POISON	B69, B77, N74, N75, T42	None	211	242	5 kg	50 kg	B	52		
	Sodium dichloroisocyanurate or Sodium dichloro-s-triazinetrione, see Dichloroisocyanuric acid etc.														
	Sodium dinitro-o-cresolate, *dry or wetted with less than 15 percent water, by mass*	1.3C	UN0234	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Sodium dinitro-o-cresolate, wetted *with not less than 15 percent water, by mass*	4.1	UN1348	II	FLAMMABLE SOLID, POISON	23, A8, A19, A20, N41	None	211	None	1 kg	15 kg	E	26, 38		
	Sodium dithionite *or* Sodium hydrosulfite	4.2	UN1384	II	SPONTANEOUSLY COMBUSTIBLE.	A19, A20	None	212	241	15 kg	50 kg	E	13		
	Sodium fluoride	6.1	UN1690	III	KEEP AWAY FROM FOOD	T8	153	213	240	100 kg	200 kg	A	26		
	Sodium fluoroacetate	6.1	UN2629	I	POISON		None	211	242	5 kg	50 kg	E			
	Sodium fluorosilicate	6.1	UN2674	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	26		
	Sodium hydrate, see Sodium hydroxide, solid														
	Sodium hydride	4.3	UN1427	I	DANGEROUS WHEN WET	A19, N40	None	211	242	Forbidden	15 kg	E			
	Sodium hydrogendifluoride	8	UN2439	II	CORROSIVE	N3, N34	154	212	240	15 kg	50 kg	A	12, 25, 26, 40		
	Sodium hydrogendifluoride *solution*	8	UN2439	II	CORROSIVE	N3, N34	154	202	242	1 L	30 L	A	12, 25, 26, 40		
D	Sodium hydrosulfide, solution	8	NA2922	II	CORROSIVE, POISON	B2	154	202	243	1 L	30 L	B	40, 95		
	Sodium hydrosulfide, *with less than 25 percent water of crystallization*	4.2	UN2318	II	SPONTANEOUSLY COMBUSTIBLE.	A7, A19, A20	None	212	241	15 kg	50 kg	A			
	Sodium hydrosulfide *with not less than 25 percent water of crystallization*	8	UN2949	II	CORROSIVE	A7	154	212	240	15 kg	50 kg	A	26		
	Sodium hydrosulfite, *see* Sodium dithionite														
	Sodium hydroxide, solid	8	UN1823	II	CORROSIVE		154	212	240	15 kg	50 kg	A			
	Sodium hydroxide solution	8	UN1824	II	CORROSIVE	B2, N34, T8	154	202	242	1 L	30 L	A			

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Sodium hypochlorite, solution, see Hypochlorite solutions etc.			III	CORROSIVE	N34, 17	154	203	241	5 L	60 L	A	
	Sodium metal, *liquid alloy, see* Alkali metal alloys, liquid, n.o.s.												
	Sodium methylate	4.2	UN1431	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE	A19	None	212	242	15 kg	50 kg	B	
	Sodium methylate solutions *in alcohol*	3	UN1289	II	FLAMMABLE LIQUID, CORROSIVE	T8, T31	None	202	243	1 L	5 L	B	
		3		III	FLAMMABLE LIQUID, CORROSIVE	B1, T7, T30	150	203	242	5 L	60 L	A	
	Sodium monoxide	8	UN1825	II	CORROSIVE		154	212	240	15 kg	50 kg	A	
	Sodium nitrate	5.1	UN1498	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Sodium nitrate and potassium nitrate mixtures	5.1	UN1499	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Sodium nitrite	5.1	UN1500	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	56, 58
	Sodium pentachlorophenate	6.1	UN2567	II	POISON		None	212	242	25 kg	100 kg	A	
	Sodium percarbonate	5.1	UN2467	III	OXIDIZER	B7, A1, A29	152	213	240	25 kg	100 kg	A	13
	Sodium perchlorate	5.1	UN1502	II	OXIDIZER		152	212	240	5 kg	25 kg	A	56, 58, 106
	Sodium permanganate	5.1	UN1503	II	OXIDIZER		152	212	240	5 kg	25 kg	B	56, 58, 60, 106, 107
	Sodium peroxide	5.1	UN1504	I	OXIDIZER	A20, N34	None	211	None	Forbidden	15 kg	B	13, 75, 106
	Sodium peroxoborate, anhydrous	5.1	UN3247	II	OXIDIZER		152	212	240	5 kg	25 kg	A	13, 25, 106
	Sodium persulfate	5.1	UN1505	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	
	Sodium phosphide	4.3	UN1432	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
	Sodium picramate, *dry or wetted with less than 20 percent water, by mass*	1.3C	UN0234	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	16, 52
	Sodium picramate, wetted *with not less than 20 percent water, by mass*	4.1	UN1349	I	FLAMMABLE SOLID	23, AB, A19, N41	None	211	None	Forbidden	15 kg	E	28, 36
	Sodium picryl peroxide	Forbidden											
	Sodium potassium alloys, see Potassium sodium alloys												
	Sodium salts of aromatic nitroderivatives, n.o.s., *explosive*	1.3C	UN0208	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	
	Sodium selenate, see Selenates or Selenites												
D	Sodium selenite	6.1	NA2630	II	POISON		None	212	242	25 kg	100 kg	E	16, 52
	Sodium sulfide, anhydrous or Sodium sulfide, *with less than 30 percent water of crystallization*	4.2	UN1385	II	SPONTANEOUSLY COMBUSTIBLE	A19, A20, N34	None	212	241	15 kg	50 kg	A	
	Sodium sulfide, hydrated *with at least 30 percent water*	8	UN1849	II	CORROSIVE	T8	154	212	240	15 kg	50 kg	A	26
	Sodium superoxide	5.1	UN2547	I	OXIDIZER	A20, N34	None	211	None	Forbidden	15 kg	E	13, 75, 106
	Sodium tetranitride	Forbidden											
	Solids containing corrosive liquid, n.o.s.	8	UN3244	II	CORROSIVE	A19	154	212	240	15 kg	50 kg	B	40
	Solids containing flammable liquid, n.o.s.	4.1	UN3175	II	FLAMMABLE SOLID	47	181	212	240	15 kg	50 kg	B	40
	Solids containing toxic liquid, n.o.s.	6.1	UN3243	II	POISON	48	None	212	240	25 kg	100 kg	B	40
	Sounding devices, explosive	1.2F	UN0204	II	EXPLOSIVE 1.2F		None	62	None	Forbidden	Forbidden	B	
	Sounding devices, explosive	1.1F	UN0296	II	EXPLOSIVE 1.1F		None	62	None	Forbidden	Forbidden	E	
	Sounding devices, explosive	1.1D	UN0374	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Sounding devices, explosive	1.2D	UN0378	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	
	Spirits of salt, see Hydrochloric acid												
	Squibs, see Igniters etc.												
	Stannic chloride, anhydrous	8	UN1827	II	CORROSIVE	B2, T8, T25	154	202	242	1 L	0G3	C	
	Stannic chloride, pentahydrate	8	UN2440	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Stannic phosphide	4.3	UN1433	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	242	Forbidden	15 kg	E	40, 85
	Steel swarf, *see* Ferrous metal borings, etc.												
	Stibine	2.3	UN2676		POISON GAS, FLAMMABLE GAS	3	None	304	None	Forbidden	Forbidden	D	40
	Storage batteries, wet, see Batteries, wet etc.												
	Strontium arsenite	6.1	UN1691	II	POISON		None	212	242	25 kg	100 kg	A	
	Strontium chlorate, solid	5.1	UN1506	II	OXIDIZER	A1, A9, N34	152	212	242	5 kg	25 kg	A	56, 58, 106
	Strontium chlorate, solution	5.1	UN1506	II	OXIDIZER	A1, A9, N34	152	202	242	1 L	5 L	A	56, 58, 106
	Strontium nitrate	5.1	UN1507	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Strontium perchlorate	5.1	UN1508	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106
	Strontium peroxide	5.1	UN1509	II	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Strontium phosphide	4.3	UN2013	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
	Strychnine *or* Strychnine salts	6.1	UN1692	I	POISON		None	211	242	5 kg	50 kg	A	40

	Styphnic acid, *see* Trinitroresorcinol, *etc.*													
	Styrene monomer, inhibited	3	UN2055	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
	Substances, explosive, n.o.s	1.1L	UN0357	II	EXPLOSIVE 1.1L	101	None	62	None	Forbidden	Forbidden	E		2E, 8E, 11E, 17E
	Substances, explosive, n.o.s	1.2L	UN0358	II	EXPLOSIVE 1.2L	101	None	62	None	Forbidden	Forbidden	E		2E, 8E, 11E, 17E
	Substances, explosive, n.o.s.	1.3L	UN0359	II	EXPLOSIVE 1.3L	101	None	62	None	Forbidden	Forbidden	E		2E, 8E, 11E, 17E
	Substances, explosive, n.o.s	1.1A	UN0473	II	EXPLOSIVE 1.1A	101, 111	None	62	None	Forbidden	Forbidden	E		2E, 6E
	Substances, explosive, n.o.s.	1.1C	UN0474	II	EXPLOSIVE 1.1C	101	None	62	None	Forbidden	Forbidden	B		1E, 5E
	Substances, explosive, n.o.s	1.1D	UN0475	II	EXPLOSIVE 1.1D	101	None	62	None	Forbidden	Forbidden	B		1E, 5E
	Substances, explosive, n.o.s.	1.1G	UN0476	II	EXPLOSIVE 1.1G	101	None	62	None	Forbidden	Forbidden	E		1E, 8E
	Substances, explosive, n.o.s	1.3C	UN0477	II	EXPLOSIVE 1.3C	101	None	62	None	Forbidden	Forbidden	B		1E, 5E
	Substances, explosive, n.o.s.	1.3G	UN0478	II	EXPLOSIVE 1.3G	101	None	62	None	Forbidden	Forbidden	E		1E, 8E
	Substances, explosive, n.o.s.	1.4C	UN0479	II	EXPLOSIVE 1.4C	101	None	62	None	Forbidden	75 kg	A		1E, 5E
	Substances, explosive, n.o.s	1.4D	UN0480	II	EXPLOSIVE 1.4D	101	None	62	None	Forbidden	75 kg	A		1E, 5E, 24E
	Substances, explosive, n.o.s.	1.4S	UN0481	II	EXPLOSIVE 1.4S	101	None	62	None	25 kg	75 kg	A		
	Substances, explosive, n.o.s.	1.4G	UN0485	II	EXPLOSIVE 1.4G	101	None	62	None	Forbidden	75 kg	E		1E, 8E
	Substances, explosive, very insensitive, n.o.s., *or* Substances, EVI, n.o.s.	1.5D	UN0482	II	EXPLOSIVE 1.5D	101	None	62	None	Forbidden	Forbidden	B		1E, 5E
	Substituted nitrophenol pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*	3	UN2780	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B		40
				II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B		40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A		
	Substituted nitrophenol pesticides, liquid, toxic	6.1	UN3014	I	POISON	T42	None	201	243	1 L	30 L	B		40
				II	POISON	T14	None	202	243	5 L	60 L	B		40
				III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A		40
	Substituted nitrophenol pesticides, liquid, toxic, flammable *flashpoint not less than 23 degrees C*	6.1	UN3013	I	POISON, FLAMMABLE LIQUID,	T42	None	201	243	1 L	30 L	B		40
				II	POISON,, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B		40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	A		40
	Substituted nitrophenol pesticides, solid, toxic	6.1	UN2779	I	POISON		None	211	242	5 kg	50 kg	A		40
				II	POISON		None	212	242	25 kg	100 kg	A		40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		40
	Sucrose octanitrate (dry)	Forbidden												
	Sulfamic acid	8	UN2967	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
D	Sulfur	9	NA1350	III	CLASS 9	30, A1	None	None	240	25 kg	100 kg	A		19, 74
I	Sulfur	4.1	UN1350	III	FLAMMABLE SOLID	A1, N20, T1	151	213	240	25 kg	100 kg	A		19, 74
	Sulfur and chlorate, loose mixtures of	Forbidden												
	Sulfur chlorides	8	UN1828	I	CORROSIVE	5, A3, B10, B77, N34	None	201	243	Forbidden	2.5 L	C		40
	Sulfur dichloride, see Sulfur chlorides													
	Sulfur dioxide, liquefied	2.3	UN1079		POISON GAS, CORROSIVE	3, B14	None	304	314, 315	Forbidden	25 kg	D		40
	Sulfur dioxide solution see Sulfurous acid													
	Sulfur hexafluoride	2.2	UN1080		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		
D	Sulfur, molten	9	NA2448	III	CLASS 9	T9, T38	None	213	247	Forbidden	Forbidden	C		61
I	Sulfur, molten	4.1	UN2448	III	FLAMMABLE SOLID	T9, T38	None	213	247	Forbidden	Forbidden	C		61
	Sulfur tetrafluoride	2.3	UN2418		POISON GAS, CORROSIVE	1	None	302	245	Forbidden	25 kg	D		40
+	Sulfur trioxide, inhibited	8	UN1829	I	CORROSIVE, POISON	2, A7, B9, B12, B14, B32, B49, B74, B77, N34, T38, T43, T45	None	227	244	Forbidden	25 kg	A		40
+, D	Sulfur trioxide uninhibited	8	NA1829	I	CORROSIVE, POISON	2, A7, B9, B12, B14 B32 B49 B74, B77, N34, T38, T43, T45	None	227	244	Forbidden	25 kg	C		10, 40
	Sulfuretted hydrogen see Hydrogen sulfide, liquefied													
	Sulfuric acid, fuming *with less than 30 percent free sulfur trioxide*	8	UN1831	I	CORROSIVE	A3 A7 B84 N34 T18, T27	None	201	243	Forbidden	2.5 L	C		14, 40
+	Sulfuric acid, fuming *with 30 percent or more free sulfur trioxide*	8	UN1831	I	CORROSIVE, POISON	2, A3, A6, A7, B9, B14, B32, B74, B77, B84, N34, T38, T43, T45	None	227	244	Forbidden	Forbidden	C		14, 40

§172.101 Hazardous Materials Table—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or railcar (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Sulfuric acid, spent	8	UN1832	II	CORROSIVE	A2, A7, B2, B53, B64, N34, T9, T27	None	202	242	Forbidden	30 L	C	14
	Sulfuric acid with more than 51 percent acid	8	UN1830	II	CORROSIVE	A2, A7, B2, B53, B64, N34, T9, T27	154	202	242	1 L	30 L	C	14
	Sulfuric acid with not more than 51% acid, or Battery fluid, acid	8	UN2796	II	CORROSIVE	A3, A7, B2, B15, N6, N34, T9, T27	154	202	242	1 L	30 L	B	
	Sulfuric and hydrofluoric acid mixtures, see Hydrofluoric and sulfuric acid mixtures												
	Sulfuric anhydride, see Sulfur trioxide, inhibited												
	Sulfurous acid	8	UN1833	II	CORROSIVE	B2, T9	154	202	242	1 L	30 L	B	40
+	Sulfuryl chloride	8	UN1834	I	CORROSIVE, POISON	1, A9, B6, B9, B10, B14, B30, B74, B77, N34, T38, T43, T45	None	226	244	Forbidden	Forbidden	C	40
	Sulfuryl fluoride	2.3	UN2191		POISON GAS	4	None	304	314, 315	Forbidden	25 kg	D	40
	Tars, liquid, including road asphalt and oils, bitumen and cut backs	3	UN1999	II	FLAMMABLE LIQUID	B15, T7, T30	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B15, T2, T30	150	203	242	60 L	220 L	A	
	Tear gas candles	6.1	UN1700	II	POISON, FLAMMABLE SOLID		None	340	None	Forbidden	50 kg	D	40
	Tear gas cartridges, see Ammunition, tear-producing, etc.												
D	Tear gas devices with more than 2 percent tear gas substances, by mass	6.1	NA1693	I	POISON		None	340	None	Forbidden	Forbidden	D	40
				II	POISON		None	340	None	Forbidden	Forbidden	D	40
	Tear gas devices, with not more than 2 percent tear gas substances, by mass, see Aerosols, etc.												
	Tear gas grenades, see Tear gas candles												
	Tear gas substances, liquid, n.o.s.	6.1	UN1693	I	POISON		None	201	None	Forbidden	Forbidden	D	40
				II	POISON		None	202	None	Forbidden	5 L	D	40
	Tear gas substances, solid, n.o.s.	6.1	UN1693	I	POISON		None	211	None	Forbidden	Forbidden	D	40
				II	POISON		None	212	None	Forbidden	25 kg	D	40
	Tellurium compounds, n.o.s.	6.1	UN3284	I	POISON		None	211	242	5 kg	50 kg	B	
				II	POISON	T14	None	212	242	25 kg	100 kg	B	
				III	KEEP AWAY FROM FOOD	T7	155	213	240	100 kg	200 kg	A	
	Tellurium hexafluoride	2.3	UN2195		POISON GAS, CORROSIVE		None	302	None	Forbidden	Forbidden	D	40
	Terpene hydrocarbons, n.o.s.	3	UN2319	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Terpinolene	3	UN2541	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Tetrazido benzene quinone	Forbidden											
	Tetrabromoethane	6.1	UN2504	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Tetrachloroethane	6.1	UN1702	II	POISON	N36, T14	None	202	242	5 L	60 L	A	40
	Tetrachloroethylene	6.1	UN1897	III	KEEP AWAY FROM FOOD	N36, T1	153	203	241	60 L	220 L	A	40
	Tetraethyl dithiopyrophosphate	6.1	UN1704	II	POISON		None	212	242	25 kg	100 kg	D	40
D	Tetraethyl lead, liquid	6.1	NA1649		POISON, FLAMMABLE LIQUID		None	201	None	Forbidden	Forbidden	E	40
D	Tetraethyl pyrophosphate, liquid	6.1	NA3018	I	POISON		None	201	242	Forbidden	1 L	A	40
D	Tetraethyl pyrophosphate, solid	6.1	NA1750	II	POISON	N77	None	211	242	Forbidden	30 kg	A	40
	Tetraethyl silicate	3	UN1292	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Tetrahydrammonium perchlorate (dry)	Forbidden											
	Tetraethylenepentamine	8	UN2320	III	CORROSIVE	T2	154	203	241	5 L	60 L	A	
	1,1,1,2-Tetrafluoroethane	2.2	UN3159		NONFLAMMABLE GAS		306	306	314, 315	75 kg	150 kg	A	
	Tetrafluoroethylene, inhibited	2.1	UN1081		FLAMMABLE GAS		306	304	None	Forbidden	150 kg	E	40
	Tetrafluoromethane, Ref.	2.2	UN1982		NONFLAMMABLE GAS		None	302	None	75 kg	150 kg	A	
	1,2,3,6-Tetrahydrobenzaldehyde	3	UN2498	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Tetrahydrofuran	3	UN2056	II	FLAMMABLE LIQUID	T8	None	202	242	5 L	60 L	B	
	Tetrahydrofurfurylamine	3	UN2943	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Tetrahydrophthalic anhydrides with more than 0.05 percent of maleic anhydride	8	UN2698	III	CORROSIVE		154	210	240	25 kg	100 kg	A	
	1,2,3,6-Tetrahydropyridine	3	UN2410	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Tetraphosphorus sesquisulfide	4.1	UN1341	II	FLAMMABLE SOLID	T7	150	202	242	5 L	60 L	B	

	Tetramethylammonium hydroxide	8	UN1835	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
	Tetramethylene diperoxide dicarbamide	Forbidden											
	Tetramethylsilane	3	UN2749	I	FLAMMABLE LIQUID	T31, T26	None	201	243	Forbidden	30 L	D	
	Tetranitro diglycerin	Forbidden											
	Tetranitroaniline	1.1D	UN0207	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
+	Tetranitromethane	5.1	UN1510	I	OXIDIZER, POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	None	Forbidden	Forbidden	D	40, 66, 106
	2,3,4,6-Tetranitrophenol	Forbidden											
	2,3,4,6-Tetranitrophenyl methyl nitramine	Forbidden											
	2,3,4,6-Tetranitrophenylnitramine	Forbidden											
	Tetranitroresorcinol (dry)	Forbidden											
	2,3,5,6-Tetranitroso-1,4-dinitrobenzene	Forbidden											
	2,3,5,6-Tetranitroso nitrobenzene (dry)	Forbidden											
	Tetrapropylorthotitanate	3	UN2413	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	
	Tetrazene, *see* Guanyl nitrosaminoguanyltetrazene												
	Tetrazine (dry)	Forbidden											
	Tetrazol-1-acetic acid	1.4C	UN0407	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	1E, 5E, 24E
	Tetrazolyl azide (dry)	Forbidden											
	Tetryl, *see* Trinitrophenylmethylnitramine												
	Thallium chlorate	5.1	UN2573	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	56, 58, 106
	Thallium compounds, n.o.s.	6.1	UN1707	II	POISON		None	212	242	25 kg	100 kg	A	
	Thallium nitrate	6.1	UN2727	II	POISON, OXIDIZER		None	212	242	5 kg	25 kg	A	
D	Thallium sulfate, solid	6.1	NA1707	II	POISON		None	212	242	5 kg	50 kg	A	
	4-Thiapentanal	6.1	UN2785	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	B	25, 49
	Thioacetic acid	3	UN2436	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Thiocarbonylchloride, see Thiophosgene												
	Thioglycol	6.1	UN2966	II	POISON	T8	None	202	243	5 L	60 L	A	
	Thioglycolic acid	8	UN1940	II	CORROSIVE	A7, B2, N34, T8	154	202	242	1 L	30 L	A	
	Thiolactic acid	6.1	UN2936	II	POISON	T8	None	212	242	25 kg	100 kg	A	
	Thionyl chloride	8	UN1836	I	CORROSIVE	25, A7, B6, B10, N34, T42	None	201	243	Forbidden	Forbidden	C	40
	Thiophene	3	UN2414	II	FLAMMABLE LIQUID	T2	150	202	242	5 L	60 L	B	40
+	Thiophosgene	6.1	UN2474	II	POISON	2, A7, B9, B14, B32, B74, N33, N34, T38, T43, T45	None	227	244	Forbidden	60 L	B	26, 40
	Thiophosphoryl chloride	8	UN1837	II	CORROSIVE	A3, A7, B2, B8, B25, N34, T12	None	202	242	Forbidden	30 L	C	40
	Thorium metal, pyrophoric	7	UN2975		RADIOACTIVE, SPONTANEOUSLY COMBUSTIBLE		None	418	None	Forbidden	Forbidden	D	
	Thorium nitrate, solid	7	UN2976		RADIOACTIVE, OXIDIZER		None	419	None	Forbidden	15 kg	A	
	Tin chloride, fuming, see Stannic chloride, anhydrous												
	Tin perchloride or Tin tetrachloride, see Stannic chloride, anhydrous												
	Tinctures, medicinal	3	UN1293	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Tinning flux, see Zinc chloride												
	Titanium disulphide	4.2	UN3174	III	SPONTANEOUSLY COMBUSTIBLE		None	213	241	25 kg	100 kg	A	
	Titanium hydride	4.1	UN1871	II	FLAMMABLE SOLID	A19, A20, N34	None	212	241	15 kg	50 kg	E	
	Titanium powder, dry	4.2	UN2546	I	SPONTANEOUSLY COMBUSTIBLE		None	211	242	Forbidden	Forbidden	D	
				II	SPONTANEOUSLY COMBUSTIBLE	A19, A20, N5, N34	None	212	241	15 kg	50 kg	D	
				III	SPONTANEOUSLY COMBUSTIBLE		None	213	241	25 kg	100 kg	D	
	Titanium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns, (b) chemically produced, particle size less than 840 microns	4.1	UN1352	II	FLAMMABLE SOLID	A19, A20, N34	None	212	240	15 kg	50 kg	E	
	Titanium sponge granules *or* Titanium sponge powders	4.1	UN2878	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	D	
D	Titanium sulfate solution	8	NA1760	II	CORROSIVE	B2, B15	None	202	242	1 L	30 L	B	40
+	Titanium tetrachloride	8	UN1838	II	CORROSIVE, POISON	2, A3, A6, B7, B9, B14, B32, B41, B74, B77, N41, T38, T43, T45.	None	227	244	Forbidden	30 L	C	40
	Titanium trichloride mixtures	8	UN2869	II	CORROSIVE	A7, N34	154	212	240	15 kg	50 kg	A	40
				III	CORROSIVE	A7, N34	154	213	240	25 kg	100 kg	A	40
	Titanium trichloride, pyrophoric or Titanium trichloride mixtures, pyrophoric	4.2	UN2441	I	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE.	A7, A8, A19, A20, N34.	None	181	244	Forbidden	Forbidden	D	40
	TNT mixed with aluminum, see Tritonal												

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	TNT, *see* Trinitrotoluene, etc.												
	Toluene	3	UN1294	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Toluene diisocyanate	6.1	UN2078	II	POISON	T14	None	202	243	5 L	60 L	D	25, 40
	Toluene sulfonic acid, *see* Alkyl, Aryl or Toluene sulfonic acid *etc.*												
	Toluidines *liquid*	6.1	UN1708	II	POISON	T14	None	202	243	5 L	60 L	A	
	Toluidines *solid*	6.1	UN1708	II	POISON	T7	None	212	242	25 kg	100 kg	A	
	2,4-Toluylenediamine *or* 2,4-Toluenediamine	6.1	UN1709	III	KEEP AWAY FROM FOOD	T7	153	213	240	100 kg	200 kg	A	
	Torpedoes, liquid fueled, *with inert head*	1.3J	UN0450	II	EXPLOSIVE 1.3J			62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Torpedoes, liquid fueled, *with or without bursting charge*	1.1J	UN0449	II	EXPLOSIVE 1.1J			62	None	Forbidden	Forbidden	E	7E, 16E, 23E
	Torpedoes *with bursting charge*	1.1E	UN0329	II	EXPLOSIVE 1.1E			62	None	Forbidden	Forbidden	B	
	Torpedoes *with bursting charge*	1.3E	UN0330	II	EXPLOSIVE 1.3E			62	None	Forbidden	Forbidden	B	
	Torpedoes *with bursting charge*	1.1D	UN0451	II	EXPLOSIVE 1.1D			62	None	Forbidden	Forbidden	B	
	Toxic liquid, corrosive, inorganic, n.o.s.	6.1	UN3289	I	POISON, CORROSIVE		None	201	243	0.5 L	2.5 L	A	
				II	POISON, CORROSIVE	T14	None	202	243	1 L	30 L	A	
	Toxic liquid, corrosive, inorganic, n.o.s. *Inhalation Hazard, Packing Group I, Zone A*	6.1	UN3289	I	POISON, CORROSIVE	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	B	40
	Toxic liquid, corrosive, inorganic, n.o.s. *Inhalation Hazard, Packing Group I, Zone B*	6.1	UN3289	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	40
	Toxic liquid, inorganic, n.o.s.	6.1	UN3287	I	POISON		None	201	243	1 L	30 L	A	
				II	POISON	T14	None	202	243	5 L	60 L	A	
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	
	Toxic liquid, inorganic, n.o.s *Inhalation Hazard, Packing Group I, Zone A*	6.1	UN3287	I	POISON	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	B	40
	Toxic liquid, inorganic, n.o.s *Inhalation Hazard, Packing Group I, Zone B*	6.1	UN3287	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	40
	Toxic liquids, corrosive, organic, n.o.s.	6.1	UN2927	I	POISON, CORROSIVE	T42	None	201	243	0.5 L	2.5 L	B	40
				II	POISON, CORROSIVE		None	202	243	1 L	30 L	B	40
	Toxic liquids, corrosive, organic, n.o.s., *Inhalation hazard, Packing Group I, Zone A*	6.1	UN2927	I	POISON, CORROSIVE	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, corrosive, organic, n.o.s., *Inhalation hazard, Packing Group I, Zone B*	6.1	UN2927	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, flammable, organic, n.o.s.	6.1	UN2929	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID	T15	None	202	243	5 L	60 L	B	40
	Toxic liquids, flammable, organic, n.o.s., *inhalation hazard, Packing Group I, Zone A*	6.1	UN2929	I	POISON, FLAMMABLE LIQUID	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, flammable, organic, n.o.s., *inhalation hazard, Packing Group I, Zone B*	6.1	UN2929	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, organic, n.o.s	6.1	UN2810	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	40

	Toxic, liquids, organic, n o.s. *Inhalation hazard, Packing Group I, Zone A*		6.1	UN2810	I	POISON	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic, liquids, organic, n o.s. *Inhalation hazard, Packing Group I, Zone B*		6 1	UN2810	I	POISON	2 B9 B14 B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, oxidizing, n.o s		6.1	UN3122	I	POISON, OXIDIZER	A4	None	201	243	Forbidden	2.5 L	C	
					II	POISON, OXIDIZER		None	202	243	1 L	5 L	C	
	Toxic liquids, oxidizing, n.o s. *Inhalation hazard, Packing Group I, Zone A*		6.1	UN3122	I	POISON, OXIDIZER	1, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	2 5 L	C	
	Toxic liquids, oxidizing, n o s *Inhalation Hazard, Packing Group I, Zone B*		6.1	UN3122	I	POISON, OXIDIZER	2, B9, B14, B32 T38, T43, T45.	None	227	244	Forbidden	Forbidden	C	
	Toxic liquids, water-reative, n o s		6 1	UN3123	I	POISON, DANGEROUS WHEN WET	A4	one	201	243	Forbidden	1 L	E	40
					II	POISON, DANGEROUS WHEN WET		None	202	243	1 L	5 L	E	40
	Toxic liquids, water-reative, n o s *Inhalation hazard, packing group I, Zone A*		6.1	UN3123	I	POISON, DANGEROUS WHEN WET.	1, B9, B14 B30, B72, T38, T43, T44	None	226	244	Forbidden	Forbidden	E	40
	Toxic liquids water-reative, n o.s. *Inhalation hazard packing group I, Zone B*		6.1	UN3123	I	POISON, DANGEROUS WHEN WET	2, B9, B14 B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	E	40
	Toxic solid, corrosive, inorganic, n o.s		6.1	UN3290	I	POISON, CORROSIVE		None	211	242	1 kg	25 kg	A	
					II	POISON, CORROSIVE		None	212	242	15 kg	50 kg	A	
	Toxic solid, inorganic, n o.s.		6 1	UN3288	I	POISON		None	211	242	5 kg	50 kg	A	
					II	POISON		None	212	242	25 kg	100 kg	A	
					III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Toxic solids, corrosive, organic n o s.		6.1	UN2928	I	POISON, CORROSIVE		None	211	242	1 kg	25 kg	B	40
					II	POISON, CORROSIVE		None	212	242	15 kg	50 kg	B	40
	Toxic solids, flammable, organic, n o.s		6 1	UN2930	I	POISON, FLAMMABLE SOLID		None	211	242	1 kg	15 kg	B	
					II	POISON, FLAMMABLE SOLID		None	212	242	15 kg	50 kg	B	
	Toxic solids, organic, n o.s		6.1	UN2811	I	POISON		None	211	242	5 kg	50 kg	B	
					II	POISON		None	212	242	25 kg	100 kg	B	
					III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	
	Toxic solids, oxidizing, n.o.s.		6.1	UN3086	I	POISON, OXIDIZER		None	211	242	1 kg	15 kg	C	
					II	POISON, OXIDIZER		None	212	242	15 kg	50 kg	C	
	Toxic solids, self heating, n.o.s.		6.1	UN3124	I	POISON, SPONTANEOUSLY COMBUSTIBLE	A5	None	211	242	5 kg	15 kg	D	40
					II	POISON, SPONTANEOUSLY COMBUSTIBLE.		None	212	242	15 kg	50 kg	D	40
	Toxic solids, water-reative, n.o.s		5.1	UN3125	I	POISON, DANGEROUS WHEN WET.	A5	None	211	242	5 kg	15 kg	D	40
					II	POISON, DANGEROUS WHEN WET		None	212	242	15 kg	50 kg	D	40
D	Toy Caps		1 4S	NA0337	II	EXPLOSIVE 1 4S		None	62	None	25 kg	100 kg	A	9E
	Tracers for ammunition		1 3G	UN0212	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
	Tracers for ammunition		1 4G	UN0306	II	EXPLOSIVE 1 4G		None	62	None	Forbidden	75 kg	A	24E
	Tractors, see Vehicles, self propelled													
	Tri-(b-nitroxyethyl) ammonium nitrate		Forbidden											
	Triallyl borate		6 t	UN2609	III	KEEP AWAY FROM FOOD		153	203	241	60 L	220 L	A	13
	Triallylamine		3	UN2610	III	FLAMMABLE LIQUID, CORROSIVE.	B1, T1	None	203	242	5 L	60 L	A	40
	Triazine pesticides, liquid, flammable, toxic, *flash point less than 23 degrees C*		3	UN2764	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
					II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
					III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A	
	Triazine pesticides, liquid, toxic		6.1	UN2966	I	POISON	T42	None	201	243	1 L	30 L	B	40
					II	POISON	T14	None	202	243	5 L	60 L	B	40
					III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
	Triazine pesticides, liquid, toxic, flammable, *flashpoint not less than 23 degrees C*		6.1	UN2997	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations			(9) Quantity limitations		(10) Vessel stowage requirements	
							Exceptions (8A)	Non-bulk packagings (8B)	Bulk packagings (8C)	Passenger aircraft or railcar (9A)	Cargo aircraft only (9B)	Vessel stowage (10A)	Other stowage provisions (10B)
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	T14	153	203	242	60 L	220 L	A	40
	Triazine pesticides, solid, toxic	6.1	UN2763	II	POISON		None	211	242	5 kg	50 kg	A	40
				III	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
	Tributylamine	8	UN2542	III	CORROSIVE	T2	None	203	241	5 L	60 L	A	
	Tributylphosphane	4.2	UN3254		SPONTANEOUSLY COMBUSTIBLE		None	211	242	Forbidden	Forbidden	D	
D	(mono-(Trichloro)-tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry (*with more than 39 percent available chlorine*)	5.1	NA2468	II	OXIDIZER		152	212	240	5 kg	25 kg	A	13
	Trichloro-s-triazinetrione dry, with more than 39 percent available chlorine, see Trichloroisocyanuric acid, dry												
	Trichloroacetic acid	8	UN1839	II	CORROSIVE	A7, N34	154	212	240	15 kg	50 kg	A	
	Trichloroacetic acid, solution	8	UN2564	II	CORROSIVE	A3, A6, A7, B2, N34, T8	154	202	242	1 L	30 L	B	
				III	CORROSIVE	A3, A6, A7, N34, T7	154	203	241	5 L	60 L	B	8
+	Trichloroacetyl chloride	8	UN2442	II	CORROSIVE, POISON	1, A3, A7, B9, B14, B30, B72, N34, T38, T43, T44	None	225	244	Forbidden	Forbidden	D	40
	Trichlorobenzenes, liquid	6.1	UN2321	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Trichlorobutene	6.1	UN2322	II	POISON								
	1,1,1-Trichloroethane	6.1	UN2831	III	KEEP AWAY FROM FOOD.	T8	None	202	243	5 L	60 L	A	25, 40
	Trichloroethylene	6.1	UN1710	III	KEEP AWAY FROM FOOD.	N36, T7	153	203	241	60 L	220 L	A	40
	Trichloroisocyanuric acid, dry	5.1	UN2468	II	OXIDIZER	N36, T1	153	203	241	60 L	220 L	A	40
	Trichloromethyl perchlorate	Forbidden					152	212	240	5 kg	25 kg	A	13
	Trichlorosilane	4.3	UN1295	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID, CORROSIVE.	A7, N34, T24, T26	None	201	244	Forbidden	Forbidden	D	21, 28, 40, 49, 100
	Tricresyl phosphate *with more than 3 percent ortho isomer*	6.1	UN2574	II	POISON	A3, N33, N34, T8	None	202	243	5 L	60 L	A	
	Triethyl phosphite	3	UN2323	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Triethylamine	3	UN1296	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B	40
	Triethylenetetramine	8	UN2259	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	B	40
	Trifluoroacetic acid	8	UN2699	I	CORROSIVE	A3, A6, A7, B4, N3, N34, T18, T27	None	201	243	0.5 L	2.5 L	B	12, 40
	Trifluoroacetylchloride	2.3	UN3057		POISON GAS	2, 25, B9, B14	None	304	314, 315	Forbidden	Forbidden	D	40
	Trifluorochloroethylene, inhibited, *R1113*	2.3	UN1082		POISON GAS	3, 25, B14	None	304	314, 315	Forbidden	150 kg	B	40
	Trifluoroethane, compressed, *R143*	2.1	UN2035		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
	Trifluoromethane	2.2	UN1984		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	
D	Trifluoromethane and chlorotrifluoromethane mixture (*constant boiling mixture*) (*R-503*). *See* Refrigerant gases, n.o.s.												
	Trifluoromethane, refrigerated liquid	2.2	UN3136		NONFLAMMABLE GAS		306	None	314, 315	50 kg	500 kg	D	
	2-Trifluoromethylaniline	6.1	UN2942	III	KEEP AWAY FROM FOOD.		153	203	241	60 L	220 L	A	
	3-Trifluoromethylaniline	6.1	UN2948	II	POISON	T14	None	202	243	5 L	60 L	A	40
	Triformoxime trinitrate	Forbidden											
	Triisobutylene	3	UN2324	III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Triisocyanatoisocyanurate of isophoronediisocyanate, solution, *with 70 percent, by mass*	3	UN2906	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	

	Trisopropyl borate	3	UN2616	II	FLAMMABLE LIQUID	T8, T31	150	202	242	5 L	60 L	A			
		3	UN2616	III	FLAMMABLE LIQUID	B1, T8, T31	150	203	242	60 L	220 L	A			
D	Trimethoxysilane	6.1	NA9269	I	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	E	40		
	Trimethyl borate	3	UN2416	II	FLAMMABLE LIQUID	T14	150	202	242	5 L	60 L	B			
	Trimethyl phosphite	3	UN2329	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A			
	1,3,5-Trimethyl-2,4,6-trinitrobenzene	Forbidden													
	Trimethylacetyl chloride	6.1	UN2438	I	POISON, CORROSIVE, FLAMMABLE LIQUID	2, A3, A8, A7, B3, B9, B14, B32, B74, N34, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	25, 40		
	Trimethylamine, anhydrous	2.1	UN1083		FLAMMABLE GAS		305	304	314, 315	Forbidden	150 kg	B	40		
	Trimethylamine, aqueous solutions *with not more than 50 percent trimethylamine by mass*	3	UN1297	I	FLAMMABLE LIQUID, CORROSIVE.	T42	None	201	243	0.5 L	2.5 L	D	40, 41		
				II	FLAMMABLE LIQUID, CORROSIVE.	B1, T14	None	202	243	1 L	5 L	B	40, 41		
				III	FLAMMABLE LIQUID, CORROSIVE.	B1	150	203	242	5 L	60 L	A	40, 41		
	1,3,5-Trimethylbenzene	3	UN2325	III	FLAMMABLE LIQUID	B1, T1	None	203	242	60 L	220 L	A			
	Trimethylchlorosilane	3	UN1298	II	FLAMMABLE LIQUID, CORROSIVE.	A3, A7, B77, N34, T14, T26.	None	202	243	1 L	5 L	E	40		
	Trimethylcyclohexylamine	8	UN2326	III	CORROSIVE	T2	154	203	241	5 L	60 L	A			
	Trimethylene glycol diperchlorate	Forbidden													
	Trimethylhexamethylene diisocyanate	6.1	UN2328	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	B			
	Trimethylhexamethylenediamines	8	UN2327	III	CORROSIVE	T7	154	203	241	5 L	60 L	A			
	Trimethylol nitromethane trinitrate	Forbidden													
	Trinitro-meta-cresol	1.1D	UN0216	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	2,4,6-Trinitro-1,3-diazobenzene	Forbidden													
	2,4,6-Trinitro-1,3,5-triazido benzene (dry)	Forbidden													
	Trinitroacetic acid	Forbidden													
	Trinitroacetonitrile	Forbidden													
	Trinitroamine cobalt	Forbidden													
	Trinitroaniline *or* Picramide	1.1D	UN0153	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitroanisole	1.1D	UN0213	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrobenzene, *dry or wetted with less than 30 percent water, by mass*	1.1D	UN0214	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrobenzene, wetted *with not less than 30 percent water, by mass*	4.1	UN1354	I	FLAMMABLE SOLID	23, A2, A8, A19, N41	None	211	None	0.5 kg	0.5 kg	E	28		
	Trinitrobenzenesulfonic acid	1.1D	UN0386	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	E	1E, 5E		
	Trinitrobenzoic acid, *dry or wetted with less than 30 percent water, by mass*	1.1D	UN0215	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrobenzoic acid, wetted *with not less than 30 percent water, by mass*	4.1	UN1355	I	FLAMMABLE SOLID	23, A2, A8, A19, N41	None	211	None	0.5 kg	0.5 kg	E	28		
	Trinitrochlorobenzene *or* Picryl chloride	1.1D	UN0155	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitroethanol	Forbidden													
	Trinitroethylnitrate	Forbidden													
	Trinitrofluorenone	1.1D	UN0387	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitromethane	Forbidden													
	1,3,5-Trinitronaphthalene	Forbidden													
	Trinitronaphthalene	1.1D	UN0217	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrophenetole	1.1D	UN0218	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrophenol *or* Picric acid, *dry or wetted with less than 30 percent water, by mass*	1.1D	UN0154	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrophenol, wetted *with not less than 30 percent water, by mass*	4.1	UN1344	I	FLAMMABLE SOLID	23, A8, A19, N41	None	211	None	1 kg	15 kg	E	28, 36		
	2,4,6-Trinitrophenyl guanidine (dry)	Forbidden													
	2,4,6-Trinitrophenyl nitramine	Forbidden													
	2,4,6-Trinitrophenyl trimethylol methyl nitramine trinitrate (dry)	Forbidden													
	Trinitrophenylmethylnitramine *or* Tetryl	1.1D	UN0208	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitroresorcinol *or* Styphnic acid, *dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass*	1.1D	UN0219	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitroresorcinol, wetted *or* Styphnic acid, wetted *with not less than 20 percent water, or mixture of alcohol and water by mass*	1.1D	UN0394	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	2,4,6-Trinitroso-3-methyl nitraminoanisole	Forbidden													
	Trinitrotetramine cobalt nitrate	Forbidden													
	Trinitrotoluene and Trinitrobenzene mixtures *or* TNT and trinitrobenzene mixtures *or* TNT and hexanitrostilbene mixtures *or* Trinitrotoluene and hexanitrostilbene mixtures	1.1D	UN0388	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrotoluene mixtures containing Trinitrobenzene and Hexanitrostilbene *or* TNT mixtures containing trinitrobenzene and hexanitrostilbene	1.1D	UN0389	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrotoluene *or* TNT, *dry or wetted with less than 30 percent water, by mass*	1.1D	UN0209	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E		
	Trinitrotoluene, wetted *with not less than 30 percent water, by mass*	4.1	UN1356	I	FLAMMABLE SOLID	23, A2, A8, A19, N41.	None	211	None	0.5 kg	0.5 kg	E	28		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§173.***) Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)	(9) Quantity limitations Passenger aircraft or rail car (9A)	Cargo aircraft only (9B)	(10) Vessel stowage requirements Vessel stowage (10A)	Other stowage provisions (10B)
	Tripropylamine	3	UN2260	II	FLAMMABLE LIQUID, CORROSIVE.	B1, T8	150	203	242	5 L	60 L	A	40
	Tripropylene	3	UN2057	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Tris-(1-aziridinyl) phosphine oxide, solution	3	UN2501	II	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
		6.1		I	POISON	T8	None	202	243	5 L	60 L	A	
				III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Tris-bis-allyloxamino diethoxy propane (TVOPA)	Forbidden											
	Tritonal	1.1D	UN0390	II	EXPLOSIVE 1.1D		None	65	None	Forbidden	Forbidden	B	16, 56
	Tungsten hexafluoride	2.3	UN2196		POISON GAS, CORROSIVE.	3	None	338	None	Forbidden	Forbidden	D	40
	Turpentine	3	UN1299	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Turpentine substitute	3	UN1300	I	FLAMMABLE LIQUID	T1	None	201	243	1 L	30 L	B	
				II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Undecane	3	UN2330	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Uranium hexafluoride, *fissile excepted or non-fissile*	7	UN2978		RADIOACTIVE, CORROSIVE.		421-2	420, 425	420, 425				
	Uranium hexafluoride, fissile *(with more than 1 percent U-235)*	7	UN2977		RADIOACTIVE, CORROSIVE.		453	417, 420	417, 420			A	
	Uranium metal, pyrophoric	7	UN2979		RADIOACTIVE, SPONTANEOUSLY COMBUSTIBLE.		None	418	None			D	
	Uranyl nitrate hexahydrate solution	7	UN2980		RADIOACTIVE, CORROSIVE.		421, 426	415, 416, 417	415, 416, 417			D	
	Uranyl nitrate, solid	7	UN2981		RADIOACTIVE, OXIDIZER.		None	419	None	Forbidden	15 kg	A	
	Urea hydrogen peroxide	5.1	UN1511	III	OXIDIZER, CORROSIVE	A1, A7, A29	152	213	240	25 kg	100 kg	A	13
	Urea nitrate, *dry or wetted with less than 20 percent water, by mass*	1.1D	UN0220	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Urea nitrate, *wetted with not less than 20 percent water, by mass*	4.1	UN1357	I	FLAMMABLE SOLID	39, A8, A19, N41	None	211	None	1 kg	15 kg	A	26
	Urea peroxide, see Urea hydrogen peroxide												
	Valeraldehyde	3	UN2058	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Valeric acid, see Corrosive liquids, n.o.s.												
	Valeryl chloride	8	UN2502	II	CORROSIVE, FLAMMABLE LIQUID.	A3, A6, A7, B2, N34, T8	154	202	243	1 L	30 L	C	40
	Vanadium compound, n.o.s.	6.1	UN3285	I	POISON		None	211	243	5 kg	50 kg	B	
				II	POISON	T14	None	212	242	25 kg	100 kg	B	
				III	KEEP AWAY FROM FOOD.	T7	153	213	240	100 kg	200 kg	A	
	Vanadium oxytrichloride	8	UN2443	II	CORROSIVE	A3, A6, A7, B2, B15, N34, T8, T26.	154	202	242	Forbidden	30 L	C	40
	Vanadium pentoxide, *non-fused form*	6.1	UN2862	II	POISON		None	212	242	25 kg	100 kg	A	
	Vanadium tetrachloride	8	UN2444	I	CORROSIVE	A3, A6, A7, B4, N34, T8, T26.	None	201	243	Forbidden	2.5 L	Q	40
	Vanadium trichloride	8	UN2475	III	CORROSIVE		154	213	240	25 kg	100 kg	A	40
	Vanadyl sulfate	6.1	UN2931	III	POISON		None	212	242	25 kg	100 kg	A	40
D	*Vehicles, self-propelled (including internal combustion engines or other apparatus containing an internal combustion Engine or electric storage battery; see* Engines, etc. or Battery powered etc. or Wheel chair, electric)												
	Very signal cartridge, see Cartridges, signal												
	Vinyl acetate, inhibited	3	UN1301	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Vinyl bromide, inhibited	2.1	UN1085		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
	Vinyl butyrate, inhibited	3	UN2838	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	
	Vinyl chloride, inhibited or Vinyl chloride, stabilized	2.1	UN1086		FLAMMABLE GAS	B44	306	304	314, 315	Forbidden	150 kg	B	40
	Vinyl chloroacetate	6.1	UN2589	II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	A	
	Vinyl ethyl ether, inhibited	3	UN1302	I	FLAMMABLE LIQUID	A3, T14	None	201	243	1 L	30 L	D	
	Vinyl fluoride, inhibited	2.1	UN1860		FLAMMABLE GAS	B49	306	304	314, 315	Forbidden	150 kg	E	40
	Vinyl isobutyl ether, inhibited	3	UN1304	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	

Vinyl methyl ether, inhibited	2.1	UN1087		FLAMMABLE GAS	B44	306	304	314, 315	Forbidden	150 kg	B	40	
Vinyl nitrate polymer	Forbidden												
Vinyl toluene, inhibited *mixed isomers*	3	UN2618	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
Vinylidene chloride, inhibited	3	UN1303	II	FLAMMABLE LIQUID	T23, T29	150	201	243	1 L	30 L	E	40	
Vinylpyridines, inhibited	6.1	UN3073	II	POISON, FLAMMABLE LIQUID.	T8	None	202	243	5 L	60 L	B	40	
Vinyltrichlorosilane	3	UN1305	I	FLAMMABLE LIQUID, CORROSIVE.	A3, A7, B6, N34, T14, T26.	None	201	243	Forbidden	2.5 L	B	40	
Warheads, rocket *with burster or expelling charge*	1.4D	UN0370	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	75 kg	A	3E, 7E	24F
Warheads, rocket *with burster or expelling charge*	1.4F	UN0371	II	EXPLOSIVE 1.4F		None	62	None	Forbidden	Forbidden	E		
Warheads, rocket *with bursting charge*	1.1D	UN0286	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	3E, 7E	
Warheads, rocket *with bursting charge*	1.2D	UN0287	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	3E, 7E	
Warheads, rocket *with bursting charge*	1.1F	UN0369	II	EXPLOSIVE 1.1F		None	62	None	Forbidden	Forbidden	E		
Warheads, torpedo *with bursting charge*	1.1D	UN0221	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	3E, 7E	
Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	I	DANGEROUS WHEN WET, CORROSIVE.		None	201	243	Forbidden	1 L	D		
			II	DANGEROUS WHEN WET, CORROSIVE.		None	202	243	1 L	5 L	E	85	
			III	DANGEROUS WHEN WET, CORROSIVE.		None	203	242	5 L	60 L	E		
Water-reactive liquid, n.o.s.	4.3	UN3148	I	DANGEROUS WHEN WET.		None	201	244	Forbidden	1 L	E	40	
			II	DANGEROUS WHEN WET.		None	202	243	1 L	5 L	E	40	
			III	DANGEROUS WHEN WET		None	203	242	5 L	60 L	E	40	
Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	I	DANGEROUS WHEN WET, POISON.	A4	None	201	243	Forbidden	1 L	D		
			II	DANGEROUS WHEN WET, POISON.		None	202	243	1 L	5 L	E	85	
			III	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD		None	203	242	5 L	60 L	E	85	
Water-reactive solid, corrosive, n.o.s.	4.3	UN3131	I	DANGEROUS WHEN WET, CORROSIVE.	N40	None	211	242	Forbidden	15 kg	D		
			II	DANGEROUS WHEN WET, CORROSIVE.		None	212	242	15 kg	50 kg	E	85	
			III	DANGEROUS WHEN WET, CORROSIVE.		None	213	241	25 kg	100 kg	E	85	
Water-reactive solid, flammable, n.o.s.	4.3	UN3132	I	DANGEROUS WHEN WET, FLAMMABLE SOLID.	N40	None	211	242	Forbidden	15 kg	E		
			II	DANGEROUS WHEN WET, FLAMMABLE SOLID.		None	212	242	15 kg	50 kg	E		
			III	DANGEROUS WHEN WET, FLAMMABLE SOLID.		None	213	241	25 kg	100 kg	E		
Water-reactive solid, n.o.s.	4.3	UN2813	I	DANGEROUS WHEN WET.	N40	None	211	242	Forbidden	15 kg	E	40	
			II	DANGEROUS WHEN WET.		None	212	242	15 kg	50 kg	E	40	
			III	DANGEROUS WHEN WET		None	213	241	25 kg	100 kg	E	40	
Water-reactive solid, oxidizing, n.o.s.	4.3	UN3133		DANGEROUS WHEN WET, OXIDIZER.		None	214	214	Forbidden	Forbidden			
Water-reactive solid, self-heating, n.o.s.	4.3	UN3135	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	N40	None	211	242	Forbidden	15 kg	E		
			II	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.		None	212	242	15 kg	50 kg	E		
			III	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.		None	213	241	25 kg	100 kg	E		
Water-reactive solid, toxic, n.o.s.	4.3	UN3134	I	DANGEROUS WHEN WET, POISON.	A5, N40	None	211	242	Forbidden	15 kg	D		
			II	DANGEROUS WHEN WET, POISON.		None	212	242	15 kg	50 kg	E	85	
			III	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD		None	213	241	25 kg	100 kg	E	85	
Water reactive substances, n.o.s., see Substances which in contact with water, *etc.*													

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Packing group	Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***) Exceptions	(8) Packaging authorizations (§173.***) Non-bulk packaging	(8) Packaging authorizations (§173.***) Bulk packaging	(9) Quantity limitations Passenger aircraft or rail	(9) Quantity limitations Cargo aircraft only	(10) Vessel stowage requirements Vessel stowage	(10) Vessel stowage requirements Other stowage provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
AD	Wheel chair, electric *(spillable or non-spillable type batteries)*	9		III	CLASS 9		222	222	None	No limit	No limit	A	
	White acid, see Hydrofluoric acid mixtures												
I	White asbestos *(chrysotile, actinolite, anthophyllite, tremolite)*	9	UN2590	III	CLASS 9		155	216	240	200 kg	200 kg	A	34, 40
	Wood preservatives, liquid	3	UN1306	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	40
		3		III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	40
	Xenon	2.2	UN2036		NONFLAMMABLE GAS		306	302	None	75 kg	150 kg	A	
	Xenon, refrigerated liquid *(cryogenic liquids)*	2.2	UN2591		NONFLAMMABLE GAS		320	None	None	50 kg	500 kg	B	
	Xylenes	3	UN1307	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
		3		III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Xylenols	6.1	UN2261	III	POISON	T6	None	212	240	25 kg	100 kg	A	
	Xylidines, solid	6.1	UN1711	II	POISON	T14	None	212	242	25 kg	100 kg	A	
	Xylidines, solution	6.1	UN1711	II	POISON	T14	None	202	243	5 L	60 L	A	
	Xylyl bromide	6.1	UN1701	II	POISON	A3, A6, A7, N33	None	340	None	Forbidden	60 L	D	40
	p-Xylyl diazide	Forbidden											
	Zinc ammonium nitrite	5.1	UN1512	II	OXIDIZER		None	212	242	5 kg	25 kg	E	
	Zinc arsenate or Zinc arsenite or Zinc arsenate and zinc arsenite mixtures	6.1	UN1712	II	POISON		None	212	242	25 kg	100 kg	A	
	Zinc ashes	4.3	UN1435	III	DANGEROUS WHEN WET	A1, A19	None	213	241	25 kg	100 kg	A	
	Zinc bisulfite solution *see* Bisulfites, inorganic aqueous solutions, n.o.s.												
	Zinc bromate	5.1	UN2469	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	56, 58, 106
	Zinc chlorate	5.1	UN1513	II	OXIDIZER	A9, N34	152	212	242	5 kg	25 kg	A	56, 58, 106
	Zinc chloride, anhydrous	8	UN2331	III	CORROSIVE		None	213	240	25 kg	100 kg	A	
	Zinc chloride, solution	8	UN1840	III	CORROSIVE	T7	154	205	241	5 L	60 L	A	
	Zinc cyanide	6.1	UN1713	I	POISON		None	211	242	5 kg	50 kg	A	26
	Zinc dithionite *or* Zinc hydrosulfite	4.2	UN1931	II	SPONTANEOUSLY COMBUSTIBLE		155	204	240	100 kg	200 kg	A	49
	Zinc ethyl, see Diethylzinc												
	Zinc fluorosilicate	6.1	UN2855	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	28
	Zinc hydrosulfite, *see* Zinc dithionite												
	Zinc muriate solution, see Zinc chloride, solution												
	Zinc nitrate	5.1	UN1514	II	OXIDIZER		152	212	240	5 kg	25 kg	A	
	Zinc permanganate	5.1	UN1515	II	OXIDIZER		152	212	242	5 kg	25 kg	B	56, 58, 69, 106, 107
	Zinc peroxide	5.1	UN1516	II	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Zinc phosphide	4.3	UN1714	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
	Zinc powder *or* Zinc dust	4.3	UN1436	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	A19, N40	None	211	242	Forbidden	15 kg	A	
				II	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	A19	None	212	242	15 kg	50 kg	A	
				III	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE		None	213	242	25 kg	100 kg	A	
	Zinc resinate	4.1	UN2714	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	
	Zinc selenate, *see* Selenates or Selenites												
	Zinc selenite, *see* Selenates or Selenites												
	Zinc silicofluoride, see Zinc fluorosilicate												
	Zirconium, dry, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)	4.1	UN2858	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	
	Zirconium, dry, finished sheets, strip or coiled wire	4.2	UN2009	II	SPONTANEOUSLY COMBUSTIBLE	A1, A19	None	213	240	25 kg	100 kg	B	
	Zirconium hydride	4.1	UN1437	II	FLAMMABLE SOLID	A19, A20, N34	None	212	240	15 kg	50 kg	E	
	Zirconium nitrate	5.1	UN2728	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Zirconium picramate, *dry or wetted with less than 20 percent water, by mass*	1.3C	UN0236	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Zirconium picramate, wetted *with not less than 20 percent water, by mass*	4.1	UN1517	II	FLAMMABLE SOLID	28, N41	None	211	None	15 kg	15 kg	D	28, 36
	Zirconium powder, dry	4.2	UN2007	I	SPONTANEOUSLY COMBUSTIBLE		None	211	242	Forbidden	Forbidden	D	
				II	SPONTANEOUSLY COMBUSTIBLE	A19, A20, N5, N34	None	212	241	15 kg	50 kg	D	

	...	...	...	III	SPONTANEOUSLY COMBUSTIBLE	...	None	213	241	25 kg	100 kg	D
	Zirconium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns, (b) chemically produced, particle size less than 840 microns	4.1	UN1358	II	FLAMMABLE SOLID	A19, A20, N34	None	212	241	15 kg	50 kg	E
	Zirconium scrap	4.2	UN1932	III	SPONTANEOUSLY COMBUSTIBLE	N34	None	213	240	Forbidden	Forbidden	D
D	Zirconium sulfate	8	NA9163	III	CORROSIVE	N34	None	213	240	50 kg	No limit	A
	Zirconium suspended in a liquid	3	UN1308	I	FLAMMABLE LIQUID		None	201	243	Forbidden	Forbidden	B
				II	FLAMMABLE LIQUID		None	202	242	5 L	60 L	B
				III	FLAMMABLE LIQUID	B1	150	203	242	60 L	220 L	B
	Zirconium tetrachloride	8	UN2503	III	CORROSIVE		154	213	240	25 kg	100 kg	A

12. In Appendix B to § 172.101, two notes would be added to the notes preceding the List of Marine Pollutants to read as follows:

Appendix B to § 172.101—List of Marine Pollutants

* * * * *

4. If a material not listed in this appendix meets the criteria for a marine pollutant, as provided in the General Introduction of the IMDG Code, Guidelines for the Identification of Harmful Substances in Packaged Form, the material may be transported as a marine pollutant in accordance with the applicable requirements of this subchapter.

5. If approved by the Associate Administrator for Hazardous Materials Safety, a material listed in this appendix which does not meet the criteria for a marine pollutant, as provided in the General Introduction of the IMDG Code, Guidelines for the Identification of Harmful Substances in Packaged Form, is excepted from the requirements of this subchapter as a marine pollutant.

* * * * *

13. In addition, in Appendix B to § 172.101, the List of Marine Pollutants would be amended by removing the entry "Ammonium arsenate" and adding the following materials to the List of Marine Pollutants in appropriate alphabetical order:

Appendix B to § 172.101—List of Marine Pollutants

* * * * *

S.M.P.	Marine pollutant
[ADD] (1)	(2)
	Acetal
	Alkyl (C12–C14)dimethylamine
	Alkyl (C7–C9)nitrates
	n-Amylbenzene
	Benomyl
	Bromoacetone
	1-Butanethiol
	n-Butyl butyrate
	Carbendazim
	Chloroacetone, stabilized
	2-Chloro-6-nitrotoluene
	alpha-Chloropropylene
	Copper arsenate
PP	Copper chloride (solution)
	Copper metal powder
	Cupric sulfate
PP	1,5,9-Cyclododecatriene
	Decyloxytetrahydrothiophene dioxide
	Diethylbenzenes (mixed isomers)
	Diisopropylnaphthalene
	Dimethyl glyoxal (butanedione)
	Dimethyl sulphide
	4,4°-Diaminodiphenylmethane
	1,4-Di-tert-butylbenzene
	Dinoseb acetate
	Dodecyl diphenyl oxide disulphonate
	Dodecyl hydroxypropyl sulfide
	1-Dodecylamine
	Epibromohydrin
	Epichlorohydrin
	Estenvalerate
	Ethyl mercaptan
	1-Ethyl-2-methylbenzene
	2-Ethylhexyl nitrate
	Fenbutatin oxide
	n-Heptylbenzene
	n-Hexylbenzene
	Iron oxide, spent
	Isobenzan
	Isobutyl propionate
	Isobutyl isobutyrate
	Isobutyl butyrate
	Isobutylbenzene
	Isopropyltoluene
	1-Methyl-2-ethylbenzene
	3-Methylpyradine
	Mononitrobenzene (nitro benzene)
	Nitrotoluenes (o-; m-; p-)
	Oleylamine
	n-Pentylbenzene
	d-Phenothrin
	Propachlor
	n-Propylbenzene
	Propanethiols
	Quizalofop
	Quizalofop-p-ethyl
	Tetrachlorvinphos
	Tetramethrin
	Tetramethylbenzenes
	Trisopropylated phenyl phosphates
	1,2,3-Trimethylbenzene
	1,2,4-Trimethylbenzene
	1,3,5-Trimethylbenzene

* * * * *

14. In § 172.102, in paragraph (c)(1), Special Provision 41 would be removed; Special Provision 16 would be revised, and Special Provisions 23 (Note: Since Special Provision 23 was already added at 59 FR 28493, this proposed 23 will be renumbered 38 in the final rule), 24, 26, 32, 34, 35, 36, 37, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50, 51 would be added and in paragraph (c)(2), Special Provision A33 would be removed, to read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

* * * * *

16 This description applies to smokeless powder and other solid propellants that are used as powder for small arms and have been classed as Division 1.3 and 4.1 in accordance with § 173.56 of this subchapter.

* * * * *

23 This material may be transported under the provisions of Division 4.1 only if it is so packed that the percentage of diluent will not fall below that stated in the shipping description at any time during transport.

24 Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III.

* * * * *

26 This entry does not include ammonium permanganate, the transport of which is prohibited except when approved by the Associate Administrator for Hazardous Materials Safety.

* * * * *

32 These beads are made from polystyrene, poly(methyl methacrylate) or other polymeric material.

* * * * *

34 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10 percent ammonium nitrate and at least 12 percent water of crystallization, is not subject to the requirements of this subchapter.

35 The gas must be at a pressure corresponding to an ambient atmospheric pressure at the time the containment system is closed and not to exceed 105 kPa absolute (15.22 psig). The gas must be contained in hermetically sealed glass or metal inner packagings and with a maximum net quantity per package of 5 liters (1 gallon) or, in the case of a toxic gas, a maximum net quantity per package of 1 liter (0.3 gallons).

36 The maximum net quantity per package is 5 liters (1 gallon) or 5 kg (11 pounds).

37 Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance must remain liquid during normal transport conditions. It must not freeze at temperatures above -15°C (5°F).

39 This substance may be carried under provisions other than those of Class 1 only if it is so packed that the percentage of water will not fall below that stated at any time during transport. When phlegmatized with water and inorganic inert material, the content of urea nitrate must not exceed 75 percent by mass and the mixture should not be capable of being detonated by test 1(a)(i) or test 1(a) (ii) in the UN Recommendations Tests and Criteria.

40 Polyester resin kits consist of two components: a base material (Class 3, Packing Group II or III) and an activator (organic peroxide), each separately packed in an inner packaging. The organic peroxide must be type D, E, or F, not requiring temperature control, and be limited to a quantity of 125 ml (4.22 ounces) per inner packaging if liquid, and 500 g (1 pound) if solid. The components may be placed in the same outer packaging provided they will not

interact dangerously in the event of leakage. Packing group will be II or III, according to the criteria for Class 3, applied to the base material.

* * * * *

43 The nitrogen content of the nitrocellulose must not exceed 11.5 percent. Each single filter sheet must be packed between sheets of glazed paper. The portion of glazed paper between the filter sheets must not be less than 65 percent, by mass. The membrane filters/paper arrangement must not be liable to propagate a detonation as tested by one of the tests described in the UN Recommendations, Tests and Criteria, Part I, Test series 1 (a).

44 The formulation must be prepared so that it remains homogeneous and does not separate during transport. Formulations with low nitrocellulose contents and neither showing dangerous properties when tested for their ability to detonate, deflagrate or explode when heated under defined confinement by the appropriate test methods and criteria in the UN Recommendations, Tests and Criteria, nor being a flammable solid when tested in accordance with Appendix E to Part 173 of this subchapter (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to this subchapter.

45 Temperature should be maintained between 18°C (64.4°F) and 40°C (104°F). Tanks containing solidified methacrylic acid must not be reheated during transport.

46 This material must be packed in accordance with packing method OP6B (see § 173.225 of this subchapter). During transport, it must be protected from direct sunshine and stored (or kept) in a cool and well-ventilated place, away from all sources of heat.

47 Mixtures of solids which are not subject to this subchapter and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level.

48 Mixtures of solids which are not subject to this subchapter and toxic liquids may be transported under this entry without first applying the classification criteria of Division 6.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. This entry may not be used for solids containing a Packing Group I liquid.

49 Mixtures of solids which are not subject to this subchapter and corrosive liquids may be transported under this entry without first applying the classification criteria of Class 8, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level.

50 Cases, cartridge, empty with primer which are made of metallic casings and meeting the classification criteria of Division 1.4 are not regulated for domestic transportation.

51 This description applies to items previously described as "Toy propellant devices, Class C" and includes reloadable kits.

* * * * *

15. In § 172.203, the list of shipping names in paragraph (k)(3) would be revised and a new paragraph (o) would be added to read as follows:

§ 172.203 Additional description requirements.

* * * * *

(k) * * *

(3) * * *

Alcoholates solution, n.o.s., *in alcohol*
Alcohols, toxic, n.o.s.
Aldehydes, toxic, n.o.s.
Alkali metal alcoholates, self-heating, corrosive, n.o.s.
Alkaline earth metal alcoholates, n.o.s.
Amines, liquid, corrosive, flammable, n.o.s. *or* Polyamines, liquid, corrosive, flammable, n.o.s.
Amines, liquid, flammable, corrosive, n.o.s. *or* Polyamines, liquid, flammable, corrosive, n.o.s.
Articles, explosive, n.o.s.
Caustic alkali liquids, n.o.s.
Charges, propelling
Chloroformates, toxic, corrosive, n.o.s.
Combustible liquid, n.o.s.
Components, explosive train, n.o.s.
Compounds, tree or weed killing, liquid, *flammable, corrosive, toxic*
Compounds, cleaning liquid, *corrosive, flammable, toxic*
Compressed *or* Liquefied gases, toxic, flammable, n.o.s.
Compressed *or* Liquefied gases, flammable, n.o.s.
Compressed *or* Liquefied gases, n.o.s.
Compressed *or* Liquefied gases, toxic, n.o.s.
Compressed *or* Liquefied gases, oxidizing, n.o.s.
Contrivances, water-activated
Corrosive, liquid, acidic, inorganic *or* organic, n.o.s.
Corrosive, liquid, basic, inorganic *or* organic, n.o.s.
Corrosive liquids, flammable, n.o.s.
Corrosive liquids, n.o.s.
Corrosive liquids, oxidizing, n.o.s.
Corrosive liquids, toxic, n.o.s.
Corrosive liquids, water-reactive, n.o.s.
Corrosive, solid, acidic, inorganic *or* organic, n.o.s.
Corrosive, solid, basic, inorganic *or* organic, n.o.s.
Corrosive solids, flammable, n.o.s.
Corrosive solids, n.o.s.
Corrosive solids, oxidizing, n.o.s.
Corrosive solids, self heating, n.o.s.
Corrosive solids, toxic, n.o.s.
Corrosive solids, water-reactive, n.o.s.
Disinfectants, liquid, toxic, n.o.s.
Disinfectants, solids, toxic, n.o.s.
Disinfectants, liquid, corrosive, n.o.s.
Dispersant gas, n.o.s.
Dyes, liquid, toxic, n.o.s. *or* Dye intermediates, liquid, toxic, n.o.s.
Dyes, liquid, corrosive, n.o.s. *or* Dye intermediates, liquid, corrosive, n.o.s.
Dyes, solid, toxic, n.o.s. *or* Dye intermediates, solid, toxic, n.o.s.
Dyes, solid, corrosive, n.o.s. *or* Dye intermediates, solid, corrosive, n.o.s.
Environmentally hazardous substances, liquid *or* solid, n.o.s.
Flammable gases, solid, corrosive, n.o.s.
Flammable liquids, corrosive, n.o.s.
Flammable liquids, n.o.s.
Flammable liquid, toxic, corrosive, n.o.s.
Flammable liquids, toxic, n.o.s.
Flammable solids, corrosive, organic *or* inorganic, n.o.s.
Flammable solids, organic, molten, n.o.s.
Flammable solids, organic *or* inorganic, n.o.s.
Flammable solids, toxic, organic *or* inorganic, n.o.s.
Halogenated irritating liquids, n.o.s.
Hazardous waste, liquid *or* solid, n.o.s.
Infectious substances, affecting animals
Infectious substances, affecting humans
Insecticide gases, n.o.s.
Insecticide gases, toxic, n.o.s.
Isocyanates, toxic, flammable, n.o.s. *or* Isocyanates solutions, toxic, flammable, n.o.s.
Isocyanates, flammable, toxic, n.o.s. *or* Isocyanates solutions, flammable, toxic, n.o.s.
Medicine, liquid, flammable, toxic, n.o.s.
Medicines, liquid, toxic, n.o.s.
Medicine, solid, toxic, n.o.s.
Metal powder, self-heating, n.o.s.
Metal salts of organic compounds, flammable, n.o.s.
Metal powders, flammable, n.o.s.
Metallic substance, water-reactive, n.o.s.
Metallic substance, water-reactive, self-heating, n.o.s.
Nitriles, toxic, flammable, n.o.s.
Nitriles, flammable, toxic, n.o.s.
Nitriles, toxic, n.o.s.
Organic peroxide type B, liquid
Organic peroxide type B, liquid, temperature controlled
Organic peroxide type B, solid
Organic peroxide type B, solid, temperature controlled
Organic peroxide type C, liquid
Organic peroxide type C, liquid, temperature controlled
Organic peroxide type C, solid
Organic peroxide type C, solid, temperature controlled

Organic peroxide type D, liquid
Organic peroxide type D, liquid, temperature controlled
Organic peroxide type D, solid
Organic peroxide type D, solid, temperature controlled
Organic peroxide type E, liquid
Organic peroxide type E, liquid, temperature controlled
Organic peroxide type E, solid
Organic peroxide type E, solid, temperature controlled
Organic peroxide type F, liquid
Organic peroxide type F, liquid, temperature controlled
Organic peroxide type F, solid
Organic peroxide type F, solid, temperature controlled
Organometallic compound dispersion, water-reactive, flammable, n.o.s.
Organometallic compound solution, water-reactive, flammable, n.o.s.
Organometallic compound, toxic, n.o.s.
Other regulated substances, liquid, n.o.s.
Other regulated substances, solid, n.o.s.
Oxidizing solid, n.o.s.
Oxidizing solid, corrosive, n.o.s.
Oxidizing solid, flammable, n.o.s.
Oxidizing solid, self-heating, n.o.s.
Oxidizing solid, toxic, n.o.s.
Oxidizing solid, water-reactive, n.o.s.
Oxidizing liquid, n.o.s.
Oxidizing liquid, corrosive, n.o.s.
Oxidizing liquid, toxic, n.o.s.
Pesticides, liquid, toxic, flammable, n.o.s.
Pesticides, liquid, toxic, n.o.s.
Pesticides, liquid, flammable, toxic, n.o.s.
Pesticides, solid, toxic, n.o.s.
Propellant, liquid
Propellant, solid
Pyrophoric liquids, organic *or* inorganic, n.o.s.
Pyrophoric metals, n.o.s. *or* Pyrophoric alloys, n.o.s.
Pyrophoric organometallic compound, n.o.s.
Pyrophoric solids, organic *or* inorganic, n.o.s.
Refrigerant gases, n.o.s.
Samples, explosive (*other than initiating explosives*)
Self-heating liquid, corrosive, inorganic, n.o.s.
Self-heating liquid, corrosive, organic, n.o.s.
Self-heating liquid, inorganic, n.o.s.
Self-heating liquid, organic, n.o.s.
Self-heating liquid, toxic, inorganic, n.o.s.
Self-heating liquid, toxic, organic, n.o.s.
Self-heating solid, corrosive, inorganic, n.o.s.
Self-heating solid, corrosive, organic, n.o.s.
Self-heating solid, organic or inorganic, n.o.s.
Self-heating solid, oxidizing, n.o.s.
Self-heating solid, toxic, organic or inorganic, n.o.s.
Self-reactive liquid type B
Self-reactive liquid type B, temperature controlled
Self-reactive liquid type C
Self-reactive liquid type C, temperature controlled
Self-reactive liquid type D
Self-reactive liquid type D, temperature controlled
Self-reactive liquid type E
Self-reactive liquid type E, temperature controlled
Self-reactive liquid type F
Self-reactive liquid type F, temperature controlled
Self-reactive solid type B
Self-reactive solid type B, temperature controlled
Self-reactive solid type C
Self-reactive solid type C, temperature controlled
Self-reactive solid type D
Self-reactive solid type D, temperature controlled
Self-reactive solid type E
Self-reactive solid type E, temperature controlled
Self-reactive solid type F
Self-reactive solid type F, temperature controlled
Solids containing corrosive liquid, n.o.s.
Solids containing flammable liquid, n.o.s.
Solids containing toxic liquid, n.o.s.
Substances, explosive, n.o.s.
Substances, explosive, very insensitive (substances, EVI) n.o.s.
Tear gas substances, liquid *or* solid, n.o.s.
Toxic liquids, corrosive, organic *or* inorganic, n.o.s.
Toxic liquids, flammable, organic *or* inorganic, n.o.s.
Toxic liquids, organic *or* inorganic, n.o.s.
Toxic liquids, oxidizing, n.o.s.
Toxic liquids, water-reactive, n.o.s.
Toxic solids, corrosive, organic *or* inorganic, n.o.s.
Toxic solids, flammable, organic *or* inorganic, n.o.s.
Toxic solids, organic or inorganic, n.o.s.
Toxic solids, oxidizing, n.o.s.
Toxic solids, self-heating, n.o.s.
Toxic solids, water-reactive, n.o.s.
Water-reactive, liquid, n.o.s.
Water-reactive, liquid, corrosive, n.o.s.
Water-reactive, liquid, toxic, n.o.s.
Water-reactive, solid, n.o.s.
Water-reactive, solid, corrosive, n.o.s.
Water-reactive, solid, flammable n.o.s.
Water-reactive, solid, oxidizing, n.o.s.
Water-reactive, solid, self-heating, n.o.s.
Water-reactive, solid, toxic, n.o.s.

* * * * *

(o) *Organic peroxides and self-reactive materials.* The description on a shipping paper for a Division 4.1 (self-reactive) material or a Division 5.2 (organic peroxide) material must include the following additional information, as appropriate:

(1) If notification or competent authority approval is required, the shipping paper must contain a statement of approval of the classification and conditions of transport.

(2) For Division 4.1 (self-reactive) and Division 5.2 (organic peroxide) materials that require temperature control during transport, the control and emergency temperature must be included on the shipping paper.

(3) The word "SAMPLE" must be included in association with the basic description when a sample of a Division 4.1 (self-reactive) material (see § 173.224(c)(4) of this subchapter) or Division 5.2 (organic peroxide) material (see § 173.225(c)(4) of this subchapter) is offered for transportation or transported.

§ 172.203 [Amended]

16. In addition, in § 172.203, in paragraph (m)(1), the wording "(Poison)" would be revised to read "'Poison' or 'Toxic'".

§ 172.204 [Amended]

17. In § 172.204, in paragraph (a)(2), the wording "packed, marked and labeled," would be revised to read "packed, marked and labeled/placarded,".

§ 172.320 [Amended]

18. In § 172.320, in paragraph (b), the wording "or identifying information" would be revised to read "or identifying information, such as a product code".

19. In § 172.400a, a new paragraph (c) would be added to read as follows:

§ 172.400a Exceptions from labeling.

* * * * *

(c) Notwithstanding the provisions of § 172.402(a), a subsidiary hazard label is not required on a package containing a Class 8 (corrosive) material which has a subsidiary hazard of Division 6.1 (poisonous) if the toxicity of the material is based solely on the corrosive destruction of tissue rather than systemic poisoning.

20. In § 172.402, new paragraphs (f) and (g) would be added to read as follows:

§ 172.402 Additional labeling requirements.

* * * * *

(f) *Division 2.2 materials.* In addition to the label specified in Column 6 of the § 172.101 Table, each package of Division 2.2 material that also meets the definition for Division 5.1 (oxidizer) must be labeled "OXIDIZER".

(g) *Division 2.3 materials.* In addition to the label specified in Column 6 of the § 172.101 Table, each package of Division 2.3 material that also meets the definition for:

(1) Division 2.1, must be labeled FLAMMABLE GAS;

(2) Division 5.1, must be labeled OXIDIZER; and

(3) Class 8, must be labeled "CORROSIVE".

§ 172.402 [Amended]

21. In addition, in § 172.402, the following changes would be made:

a. In paragraph (a)(2), in the text preceding the table, the wording "For other than Class 2 or Class 1 materials (for subsidiary labeling requirements for Class 1 materials see paragraph (e) of this section)" would be revised to read "For other than Class 1 or Class 2 materials (for subsidiary labeling

requirements for Class 1 or Class 2 materials see paragraph (e) or paragraphs (f) and (g), respectively, of this section)".

b. In the paragraph (a)(2) table, in the column "8", for the entry "III", the footnote reference "**" would be removed and replaced with "X", and footnote ** would be removed and reserved.

c. In paragraph (a)(2), in the footnotes following the table, the footnote identified as "*" would be revised to read "If the flash point of a material is at or above 38 °C (100 °F), required for transport by air or vessel only."

§ 172.411 [Amended]

22. In § 172 411, in the third sentence of paragraph (d), the wording "measuring at least 12 7 mm (0.5 inches) in height" would be removed.

23. In § 172.416, a new sentence would be added as the last sentence of paragraph (b) to read as follows

§ 172.416 POISON GAS label.

* * * * *

(b) * * * The words "TOXIC GAS" may be used in lieu of the words "POISON GAS".

24. In § 172.430, a new sentence would be added as the last sentence of paragraph (b) to read as follows:

§ 172.430 POISON label.

* * * * *

(b) * * * The word "TOXIC" may be used in lieu of the word "POISON".

25. In § 172 540, a new sentence would be added to the end of paragraph (b) to read as follows:

§ 172.540 POISON GAS placard.

* * * * *

(b) * * * The words "TOXIC GAS" may be used in lieu of the words "POISON GAS".

§ 172.547 [Amended]

26. In § 172 547, in paragraph (b), the wording "25 mm (0.98 inches)" would be removed and replaced with "12 mm (0 5 inch)".

27. In § 172.554, a new sentence would be added to the end of paragraph (b) to read as follows

§ 172.554 POISON placard.

* * * * *

(b) * * * The word "TOXIC" may be used in lieu of the word "POISON".

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

28. The authority citation for part 173 would continue to read as follows

Authority. 49 App U S C. 1803, 1804, 1805, 1806, 1807, 1808, 1817, 49 CFR part 1, unless otherwise noted

29 In § 173.2a, in the paragraph (b) table, two notes would be added at the end of the table to read as follows:

§ 173.2a Classification of a material having more than one hazard.

* * * * *

(b) * * *

Precedence of Hazard Table

* * * * *

Note 1: The most stringent packing group assigned to a hazard of the material takes precedence over other packing groups; for example, a material meeting Class 3 PG II and Division 6 1 PG I (oral toxicity) is classified as Class 3 PG I

Note 2: A material which meets the definition of Class 8 and has an inhalation toxicity by dusts and mists which meets criteria for Packing Group I specified in § 173.133(a)(1) must be classed as Division 6.1 if the oral or dermal toxicity meets criteria for Packing Group I or II. If the oral or dermal toxicity meets criteria for Packing Group III, the material must be classed as Class 8

§ 173.2a [Amended]

30. In addition, in the paragraph (b) table, the following changes would be made:

a. At the intersection of the line entry "4.2 II" and the column entry "8 I liquid", the wording "(3)" would be revised to read "8".

b At the intersection of the line entry "4.2 II" and the column entry "8 II liquid", the wording "(3)" would be revised to read "4.2".

c. At the intersection of the line entry "4.2 II" and the column entry "8 III liquid", the wording "(3)" would be revised to read "4.2".

d At the intersection of the line entry "4 2 III" and the column entry "8 I liquid", the wording "(3)" would be revised to read "8".

e At the intersection of the line entry "4 2 III" and the column entry "8 II liquid", the wording "(3)" would be revised to read "8".

f. At the intersection of the line entry "4 2 III" and the column entry "8 III liquid", the wording "(3)" would be revised to read "4.2".

31 In § 173 9, a new paragraph (e) would be added to read as follows

§ 173.9 Cars, truck bodies, freight containers, or trailers containing lading which has been fumigated or treated with Class 3, Division 2.1, 2.3, or 6.1 materials.

* * * * *

(e) See § 176.76(i) of this subchapter for requirements for fumigated transport units on vessels

§ 173.21 [Amended]

32 In § 173.21, in the first sentence of paragraph (f)(2), the wording "Columns 4a and 4b," would be revised to read "Columns 5 and 6,".

§ 173.22 [Amended]

33 In § 173.22, in paragraph (a)(3)(i), the first word "The" would be removed and replaced with the wording "Except for the marking on the bottom of a metal or plastic drum with a capacity over 100 liters which has been reconditioned, remanufactured or otherwise converted, the".

34. In § 173.24, paragraph (d) would be revised to read as follows:

§ 173.24 General requirements for packagings and packages.

* * * * *

(d) *Specification packagings and UN standard packagings manufactured outside the U.S.*—(1) *Specification packagings.* A specification packaging, including a UN standard packaging manufactured in the United States, must conform in all details to the applicable specification or standard in part 178 or part 179 of this subchapter.

(2) *UN standard packagings manufactured outside the United States.* A UN standard packaging manufactured outside the United States, in accordance with national or international regulations based on the UN Recommendations on the Transport of Dangerous Goods, may be imported and used as an authorized packaging under the provisions of paragraph (c)(1) of this section, subject to the following conditions and limitations:

(i) The packaging fully conforms to applicable provisions in the UN Recommendations on the Transport of Dangerous Goods and the requirements of this subpart, including reuse provisions;

(ii) The packaging is capable of passing the prescribed tests in part 178 of this subchapter applicable to that standard; and

(iii) The competent authority of the country of manufacture provides reciprocal treatment for UN standard packagings manufactured in the U.S.

* * * * *

§ 173.24 [Amended]

35 In addition, in § 173 24, in paragraph (e)(4)(ii), the wording "flammable or poisonous gases," would be revised to read "flammable, poisonous, or asphyxiant gases,".

36 In § 173 25, paragraph (a) introductory text would be revised and a new paragraph (b) would be added to read as follows

§ 173.25 Authorized packages and overpacks.

(a) Authorized packages containing hazardous materials may be offered for transportation in an overpack as defined in § 171.8 of this subchapter, if all of the following conditions are met:

* * * * *

(b) Shrink-wrapped or stretch-wrapped trays may be used as outer packagings for inner packagings prepared in accordance with the limited quantity provisions or consumer commodity provisions of this subchapter, provided that the complete package is capable of meeting performance standards at the Packing Group III performance level. Each package may not exceed 20 kg (44 lbs) gross weight.

* * * * *

37. In § 173.28, paragraph (b)(1) would be amended by adding a new first sentence, paragraph (b)(4) would be revised and new paragraphs (b)(7) and (c)(4) would be added to read as follows:

§ 173.28 Reuse, reconditioning and remanufacture of packagings.

* * * * *

(b) * * *

(1) Before reuse, a packaging must be examined and determined to be capable of withstanding the performance tests specified in subpart M of Part 178 of this subchapter. * * *

* * * * *

(4) Metal and plastic drums and jerricans used as single packagings or the outer packagings of composite packagings are authorized for reuse only when they are marked in a permanent manner (e.g., embossed) in millimeters with the nominal or minimum thickness of the packaging material, as required by § 178.503(a)(9) of this subchapter, and conform to the following minimum thickness criteria:

Maximum capacity not over	Minimum thickness of packaging material	
	Metal drum or jerrican	Plastic drum or jerrican
20 L	0.63 mm (0.025 inch).	1.1 mm (0.043 inch)
30 L	0.73 mm (0.029 inch).	1.1 mm (0.043 inch).
40 L	0.73 mm (0.029 inch).	1.8 mm (0.071 inch)
60 L	0.92 mm (0.036 inch).	1.8 mm (0.071 inch)
120 L	0.92 mm (0.036 inch).	2.2 mm (0.087 inch)
220 L	0.92 mm (0.036 inch) *.	2.2 mm (0.087 inch)
450 L	1.77 mm (0.070 inch).	5.0 mm (0.197 inch)

* Metal drums or jerricans constructed with a minimum thickness of 0.8 mm (0.03 inch) body and 1.1 mm (0.043 inch) heads are authorized.

* * * * *

(7) Notwithstanding the provisions of paragraph (b)(2) of this section, a packaging otherwise authorized for reuse may be reused without being subjected to the leakproofness test with air provided the packaging:

(i) Is refilled with a material compatible with the previous lading;

(ii) Is offered for transportation or transported by a private carrier, contract carrier, or by a common carrier in a transport vehicle or freight container used exclusively for such service, within a distribution chain controlled by the offeror; and

(iii) Is constructed of stainless steel, monal or nickel with a thickness not less than one and one-half times the nominal thickness prescribed in paragraph (b)(4) of this section or, if constructed of another material or thickness, is approved by the Associate Administrator for Hazardous Materials Safety for reuse without retesting in accordance with the provisions of this paragraph.

(c) * * *

(4) The markings applied by the reconditioner may be different from those applied by the manufacturer at the time of original manufacture, but may not identify a greater performance capability than that for which the original design type had been tested (for example, the reconditioner may mark a drum which was originally marked as 1A1/Y1.8 as 1A1/Y1.2 or 1A1/Z1.8).

* * * * *

§ 173.29 [Amended]

38. In addition, in § 173.29(c)(3), in the first sentence, the reference "§ 178.503(c)" would be revised to read "§ 178.503(c) and (d)".

§ 173.33 [Amended]

39. In § 173.33, in paragraph (c)(5), the wording "Division 6.1" would be revised to read "Division 6.1, Packing Group I or II".

§ 173.52 [Amended]

40. In § 173.52, in paragraph (b), Table 1, the following changes would be made:

a. In the second entry, the wording "Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives," would be added at the end of the entry following the wording "features."

b. In the fifth and sixth entries, the wording ", gel" would be added immediately following the wording "flammable liquid" and immediately preceding the wording "or hypergolic liquid".

41. In § 173.59, the following definitions would be added in appropriate alphabetical order to read as follows:

§ 173.59 Descriptions of terms for explosives.

* * * * *

Charges, propelling for cannon. Articles consisting of a propellant charge in any physical form, with or without a casing, for use in a cannon.

* * * * *

Propellant, liquid. Substances consisting of a deflagrating liquid explosive, used for propulsion.

Propellant, solid. Substances consisting of a deflagrating solid explosive, used for propulsion.

* * * * *

§ 173.59 [Amended]

42. In addition, in § 173.59, the following changes would be made:

a. For the description "*Charges, propelling*", the wording "or for reducing drag for projectiles" would be added immediately following "in cannon or".

b. For the description "*Powder, smokeless*", in the first sentence, the word "generally" would be removed, and the wording "and *charges propelling for cannon*" would be added at the end of the last sentence, immediately following the wording "*charges, propelling*".

c. For the description "*Propellants*", the wording "or for reducing the drag of projectiles" would be added at the end of the sentence immediately following the word "propulsion".

43. In § 173.60, paragraph (b)(15) would be added to read as follows:

§ 173.60 General packaging requirements for explosives.

* * * * *

(b) * * *

(15) Plastic packagings must not be liable to generate or accumulate sufficient static electricity that a discharge could cause the packaged explosive to ignite or the packaged article to function.

44. In § 173.62, paragraph (a) would be revised, a new sentence would be

added after the second sentence in paragraph (b), the Explosives Table in paragraph (b) would be amended by adding or removing entries, in appropriate alpha-numerical sequence; and the Table of Packing Methods in paragraph (c) and paragraph (d) would be revised to read as follows:

§ 173.62 Specific packaging requirements.

(a) Except as provided in paragraph (e) of this section, when the § 172.101 Table specifies that an explosive must be packaged in accordance with this section, only non-bulk packagings which conform to the provisions of paragraphs (b), (c), and (d) of this section, and the applicable requirements in §§ 173.60 and 173.61 may be used, unless otherwise approved by the Associate Administrator for Hazardous Materials Safety.

(b) * * * However, the packing method authorized under E–103 may replace the packing method listed in the Explosives Table * * *

Explosives Table

Identification No.	Packing methods
[ADD]	
UN0075	E–159
UN0143	E–159
UN0491	E–158
UN0492	E–151
UN0493	E–151
UN0494	E–140
UN0495	E–159
UN0496	E–13
UN0497	E–159
UN0498	E–22
UN0499	E–22
NA0276	E–114
NA0323	E–114
NA0337	E–134
[REMOVE]	
UN0075	US001
UN0143	US001
UN0273	E–158(a),(b),(c)
UN0274	E–158(a),(b),(c)
NA0273	E–22(a),(b),(c)
NA0274	E–22(a),(b),(c)

(c) * * *

TABLE OF PACKING METHODS

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–1(a)	Not necessary	Bags Paper, multiwall, water resistant (5M2) Textile, sift-proof (5L2) Textile, water resistant (5L3) Plastic, woven, sift-proof (5H2) Plastic, woven, water resistant (5H3) Plastic, film (5H4)	
E–1(b)	Bags. Paper, Kraft Plastic Sheets Plastic	Barrels Wood, removable head (2C2) Boxes Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums Steel, removable head (1A2)	
E–2	Receptacles Metal Paper Plastic Sheets Plastic Bags: paper, multiwall, water resistant woven plastics	Barrels Wood, removable head (2C2) Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums. Fiber (1G) Steel, removable head (1A2) *Note:* Removable head plastic drums (1H2) are authorized for UN 0219.	1 for all entries 2 for all entries except UN 0402.
E–3	Bags Plastic Rubber Textile Rubberized textile Intermediate Bags: Plastic Rubber Textile Rubberized textile Barrels Wood Receptacles Plastic	Barrels: Wood, removable head (2C2) Drums: Plastic, removable head (1H2) Steel, removable head (1A2)	3, 4, D1.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–4(a)	Receptacles: Fiberboard Metal Paper Plastic Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Steel (4A) Fiberboard (4G) natural wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Drums: Aluminum, removable head (1B2) Fiber (1G) Steel, removable head (1A2) *Note:* steel drums (1A2) must be dust tight	
E–4(b)	Optional		
E–5	Bags: Plastic Sheets: Paper, Kraft Paper, waxed	Boxes: Fiberboard (4G) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	
E–6 (a)(i)	For wetted explosives: Bags: Plastic Rubberized, textile	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Steel, removable head (1A2) Fiber (1G)	
E–6 (a)(ii)	For wetted explosives: Bags: Rubber Textile Rubberized textile Intermediate: Bags: Rubber Rubberized textile Plastics	Barrels: Wood, removable head (2C2) Drums: Steel, removable head (1A2) Fiber (1G)	
E–6(b)	For desensitized explosives: Same as for wetted explosives except that any fiberboard boxes may be used as inner packaging and any textile bags as intermediate packaging	For desensitized explosives: Same as for wetted explosives except that any fiberboard boxes may be used as inner packagings and any textile bags as intermediate packaging	
E–8	Receptacles: Waterproof material Sheets: Waterproof	Barrels: Wood, removable head (2C2) Boxes: Steel (4A) Aluminum (4B) Plastics, solid (4H2) Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2)	D15, D18.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–9	Bags Oil-resistant Sheets Plastic Cans Metal	Bags: Paper, multiwall water resistant (5M2) Textile, sift-proof (5L2) Textile, water resistant (5L3) Woven plastic, without inner lining or coating (5H1) Woven plastic, sift- proof (5H2) Woven plastic, water resistant (5H3) Plastic film (5H4) Boxes. Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Drums Fiber (1G) Steel, removable head (1A2) *Note:* If bags of 5H2, 5H3, 5H4, or 5M2 are used, no inner packaging necessary	D13
E–10	Bags. Waxed paper Plastic Rubberized textile Sheets. waxed paper, plastics, rubberized textile	Barrels. Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E–11	Bags Waxed paper Plastic Rubberized textile Sheets Waxed paper Plastic Textile Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Fiberboard (4G) Plywood (4D) Reconstituted wood (4F) Drums Fiber (1G)	
E–12	Bags: Oil-resistant Sheets: Plastic	Bags: Paper, multiwall, water resistant (5M2) Woven plastic, without inner lining or coating (5H1) Woven plastic, sift-proof (5H2) Woven plastic, water resistant (5H3) Plastic film (5H4) Textile, sift-proof (5L2) Textile, water resistant (5L3) Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2) *Note:* If bags of 5H2 or 5H3 are used, no inner packaging is necessary	D14

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–13(a)	For wetted explosives Bags: Plastic Woven plastics Paper, multiwall, water resistant Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E–13(b)	For dry explosives Bags: Paper Plastic woven plastics Paper, multiwall, water resistant Boxes: Fiberboard Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E–15(a)	Not necessary	Drums: Aluminum, removable head (1B2) Steel, removable head (1A2)	
E–15(b)	Bags: Waterproof paper Plastic Rubberized textile Sheets: Plastic Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C) Plywood (4D) Reconstituted wood (4F) Fiberboard (4G) Drums: Fiber (1G)	
E–17	Cans: Metal Receptacles: Glass Plastic	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E–18	Bags: Paper Plastic Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Plywood (1D) Steel, removable head (1A2)	
E–19(a)	Not necessary	Drums: Aluminum, removable head (1B2) Steel, removable head (1A2) Plastic, removable head (1H2)	7
E–19(b)	Bags: Plastic Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–20	Receptacles Metal Plastic Wood Fiberboard	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums Fiber (1G)	55
E–21	Boxes. Fiberboard Cans: Metal Receptacles: Waterproof paper Plastic *Note:* Plastic used must not be liable to generate static electricity by contained substances.	Boxes: Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	2
E–22(a)	Bags: Paper, Kraft Plastic Textile Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Steel (4A) Drums. Fiber (1G) Plywood (1D)	11 for UN 0411.
E–22(b)	Receptacles. Fiberboard Metal Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	10
E–22(c)	Not Necessary	Drums: Steel, removable head (1A2) Fiber (1G) Plywood (1D) Jerricans: Steel (3A1) Steel, removable head (3A2)	8, 9, 10.
E–24(a)	Bags: Rubber Rubberized textile Plastic	Boxes: Fiberboard (4G)	
E–24(b)	Bags: Rubber Rubberized textile Plastic Intermediate Bags: Rubber Rubber textile Plastic	Drums: Steel, removable head (1A2) with coating other than lead	
E–25	Bags: Plastic	Drums. Fiber (1G). Steel, removable head (1A2)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–26	Bags: Plastic Paper Paper, multiwall, water resistant Sheets: Plastic Receptacles: Metal Paper Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Bags: Plastic, sift-proof (5H2)	53
E–102	Optional	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Fiberboard (4G) Plastics, solid (4H2) Crates: (For large articles) Drums: Steel, removable head (1A2) Fiber (1G) Aluminum, removable head (1B2)	13, 48, 49.
E103	Must be specifically authorized by the Associate Administrator for Hazardous Materials Safety prior to transportation. See §§ 173.57 and 173.58. For an international shipment, the package must be marked with "Packaging authorized by competent authority of the United States of America (USA)."		
E–106	Not necessary.	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums: Steel, removable head (1A2)	49 for all entries except UN 0434 and UN 0435.
E–107	Not necessary.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	57.
(a)	*Note:* This packaging method is to be used for boosters which are finished articles consisting of closed metal, plastic, or fiberboard receptacles that contain a detonating explosive, or consisting of a plastic-bonded detonating explosive.	*Note:* This packaging method is to be used for boosters which are finished articles consisting of closed metal, plastic, or fiberboard receptacles that contain a detonating explosive, or consisting of a plastic-bonded, detonating explosive.	
E–107 (b)	Receptacles: Fiberboard Metal Plastic Sheets: Plastic Paper *Note:* This packaging method is to be used for cast or pressed boosters in tube or capsules without end closures.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) *Note:* This packaging method is to be used for cast or pressed boosters in tube or capsules without end closures.	57.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–108	Receptacles Metal Plastic Wooded NOTE. Dividing partitions in the outer packaging may be used in place of inner packagings	Boxes Wooden, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	23
E–109	Receptacles Metal Plastic Wood Paper fiberboard	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	28
E–113	Receptacles Fiberboard Plastic Metal	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Natural wood, with sift-proof walls (4C2) Steel (4A)	
E–114	Receptacles Fiberboard Plastic Metal Wood	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Natural wood, with sift-proof walls (4C2) Drums Steel, removable head (1A2)	
E–115	Receptacles: Fiberboard Metal Paper, Kraft (for cartridge of 1 4G and 1.4S) Plastic Wood	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Plastics, solid (4H2)	
E–116	Bags Plastic Textile Boxes: Fiberboard Plastic Wood NOTE: (1) Bags are authorized for small cases only. (2) Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes. Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–117	Not necessary	Boxes. Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Drums Steel, removable head	57.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–119	Not necessary	Boxes: Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Plastics, solid (4H2) Drums: Steel, removable head (1A2) Aluminum, removable head (1B2) *Note:* Packaging 4C1 is authorized for cased charges only	
E–120	Tubes: Fiberboard Other materials *Note:* Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	30, 31
E–121	Not necessary	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2) Aluminum (1B2)	32, 57.
E–122	Boxes: Metal Plastic Wood Fiberboard	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–123	Receptacles: Fiberboard Metal Plastics *Note:* Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Wood, ordinary (4C1), with metal liner Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1)	35, 49.
E–124	Reels Receptacles: Metal	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Aluminum (4B) Steel (4A) Drums: Steel, removable head (1A2) Aluminum (1B2) Fiber (1G)	33
E–125	Bags: Plastic Sheets: Paper, Kraft Plastic *Note:* Reels may be used in place of inner packagings	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums Steel, removable head (1A2) Aluminum (1B2)	34

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–126	Receptacles Fiberboard NOTE: Reels may be used in place of inner packagings.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums Steel, removable head (1A2) Aluminum (1B2)	
E–127	Receptacles Fiberboard Metals Plastics	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G)	
E–128	Boxes Fiberboard Plastic Wood Trays Fiberboard Plastic Wood Cans. Metal *Note:* All inner packagings must be fitted with dividing partitions	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G)	23, 36.
E–129	Receptacles Fiberboard Plastic Sheets Paper	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E–130	Receptacles: Fiberboard Plastic Metal Sheets: Paper	Boxes: Fiberboard (4G) Wood, ordinary (4C1), Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Drums: Fiber (1G) Plastic, removable head (1H2) Steel, removable head (1A2) Aluminum, removable head (1B2)	
E–133	Receptacles Fiberboard Metal Plastic Sheets Paper, Kraft *Note:* Dividing partitions in the outer package may be used in place of inner packagings	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Solid plastics (4H2) Drums: Fiber (1G) Plastic, removable head (1H2) Steel, removable head Aluminum, removable head (1B2)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–134	Receptacles: Fiberboard Metal Plastic Wood	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2) Aluminum (1B)	
E–135	Bags: Plastic Reels Sheets: Paper, Kraft Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E–136	Not necessary	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastic (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2)	32, 57
E–137	Receptacles: Fiberboard Metal Plastic Wood Trays: Plastic Wood *Note:* Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Plastics, solid (4H2) Drums: Steel, removable head (1A2)	58, 38 for UN 0105, 0107, 0257, 0367, 0408, 0409 and 0410 only.
E–138	Optional	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2)	
E–139	Receptacles: Metal Plastic Wood Fiberboard	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2)	28 for UN 0121 only.
E–141	Receptacles: Fiberboard Metal Wood Sheets: Paper Trays: Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–142	Boxes Fiberboard Metal Plastic Wood Cans: Metal Trays Fiberboard, sleeved Plastic, sleeved Intermediate: (Optional with inner boxes but mandatory with trays) Boxes. Fiberboard	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	40, D11, D39.
E–143	Boxes Fiberboard Metal Wood Tubes Fiberboard Trays. Plastic	Boxes. Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–145	Receptacles Fiberboard Metal (for rivets, explosives) Plastic Wood	Boxes Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–146(a)	Not necessary	Boxes Fiberboard (4G) Plywood (4D) Reconstituted wood (4F) Steel (4A) Wood, ordinary (4C1)	
E–146(b)	Not necessary	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E–146(c)	Not necessary	Boxes: Steel (4A1) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E–147	Receptacles Fiberboard Metal	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums. Fiber (1G)	
E–149	Optional	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Solid plastics (4H2) Steel (4A) Aluminum (4B)	42, 50

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–150	Boxes: Fiberboard metal Receptacles: Metal Plastic Sheets: Paper, Kraft	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Plastics, solid (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2) Plastics, removable head (1H2)	12.
E–151	Receptacles: Metal Plastic Wood Fiberboard	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Fiber (1G)	43, 44, 45.
E–153	Sheets: Fiberboard, corrugated Tubes: Fiberboard	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	46.
E–156	Intermediate: Receptacles: Fiberboard Metal Plastic Bags: Plastic Boxes: Fiberboard Tubes: Fiberboard Plastic Metal NOTE: Dividing partitions in the outer packaging may be used in place of inner packaging.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–157	Not necessary	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E–158(a)	Bags: Paper, Kraft Plastics Textile Rubberized textiles	Boxes: Fiberboard(4G) Wood, ordinary(4C1) Wood, sift-proof(4C2) Plywood(4D) Reconstituted wood(4F) Solid plastics(4H2) Drums: Steel, removable head (1A2) Fiber(1G) Plywood(1D)	8, 10.
E–158(b)	Receptacles: Fiberboard Metal Plastics	Boxes: Fiberboard(4G) Wood, ordinary(4C1) Wood, sift-proof(4C2) Plywood(4D) Reconstituted wood(4F) Solid plastics(4H2)	10

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E–158(c)		Composite packagings: Plastic receptacle with outer solid plastic box (6HH2)	
E–159(a)	Receptacles. Plastics Intermediate Bags Plastic, in metal cans	Boxes: Natural wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) NOTE: DOT Spec. MC–200, motor vehicle container may be used as the outer packaging	58.
E–159(b)	Receptacles Plastics Intermediate Drums Metal	Drums: Steel, removable head (1A2) Aluminum, removable head (1B2) NOTE: DOT Spec. MC–200, motor vehicle container may be used as the outer packaging.	59.
US002	Receptacles Fiberboard Metal Paper	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D3.
US003	Receptacles Fiberboard Metal Plastic Intermediate: Boxes: Fiberboard Wood Sheets: Paper, Kraft Plastic	Boxes. Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D3, D4, D10.
US004	Receptacles: Fiberboard Metal Paper	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D5, D6, D7, D8.
US005	Boxes: Fiberboard Metal Plastic Wood NOTE. Metal clips or dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2)	13
US006	Jet perforating guns, charged, oiled well may be transported under the following conditions: a. Initiation devices carried on the same motor vehicle or offshore supply vessel must be segregated; each kind from every other kind, and from the guns, tools or other supplies. Initiation devices shall be carried in a container having individual pockets for each such device or in a fully enclosed steel container lined with a non-sparking material. No more than two initiation devices per gun shall be carried on the same motor vehicle. b Each shaped charge affixed to the gun may not contain more than 112 g (4 ounces) of explosives c. Each shaped charge if not completely enclosed in glass or metal, must be fully protected by a metal cover after installation in the gun. d. Jet perforating guns classed as 1.1D or 1.4D may be transported by highway by private or contract carriers engaged in oil well operations. 1. Motor vehicles must have specially built racks or carrying cases designed and constructed so that guns are securely held in place during transportation and are not subject to damage by contact, one to the other or other articles or materials carried in the vehicle, and; 2. The assembled gun or guns packed on the vehicle may not extend beyond the body of the motor vehicle. e. Jet perforating guns classed as 1.4D may be transported by private offshore supply vessels only when the guns are carried in motor vehicles as specified in paragraph (d) of this packing method or on offshore down-hole tool pallets provided that: 1. All the conditions specified in paragraphs (a), (b), and (c) of this packing method are met;		

	2. The total explosive contents does not exceed 9.1 kg (20 pounds) per pallet; 3. Each cargo vessel compartment may contain up to 90.8 kg (200 pounds) of explosive content if the segregation requirements in § 176.83(b)(3) of this subchapter are met; and 4. When more than one vehicle or pallet is stowed "on deck" a minimum horizontal separation of 3 m (9.8 feet) must be provided.

(d) *Table of particular packaging requirements or exceptions.*

Number identifying packaging requirement or exception	Explanation of packaging requirement or exception
1	Water soluble substances must be packed in waterproof receptacles.
2	Packages must be lead free.
3	The barrels and drums must have a watertight seal.
4	The intermediate and outer packagings must be filled with water or an appropriate water saturated material when the intermediate packaging is a rubber or rubberized textile bag.
7	Metal drums used for powder paste must be so constructed that explosion is not possible by reason of increase in internal pressure from internal or external causes.
8	The inside of drums and jericans must be galvanized, painted or otherwise protected. Bare steel must not come into contact with smokeless powder.
9	Drums or jericans of steel must be constructed without pockets or crevices in which smokeless powder could be trapped or nipped.
10	Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced.
11	The inner packagings must be sealed.
12	Outer boxes of natural wood may be provided with tin-plate liner having a sealed lid.
13	Open ends of inner packagings must be fitted with padded end caps or the outer packaging must be padded.
22	The inner packagings must be separated from the outer packaging by a gap of not less than 25 mm (1 inch) of cushioning material, e.g., sawdust, wood, wool.
28	Metal inner packagings must be packed with cushioning material.
30	The shaped charges must be packed so that contact between them is prevented.
31	The conical cavities of the shaped charges must face inward in pairs or groups to minimize the shaped charge (jetting) effect in the event of accidental initiation.
32	The ends of the articles must be sealed or the use of bags, plastics, as inner packaging is mandatory.
33	The ends of the detonating cord must be sealed and tied fast.
34	The ends of the detonating cord must be sealed. Spaces must be filled with packing material.
35	Packagings must be sealed against the ingress of water.
36	The detonators must be cushioned to prevent significant movement and contact between them.
38	The detonating fuses must be separated from each other in the inner packaging.
41	The primers must be packed with shock absorbent layers of felt, paper or plastic to prevent propagation within the outer packaging.
42	The outer plastic packagings must be reinforced with metal at corners and edge.
43	The signals must be separated to prevent contact with one another and kept apart from the bottom, walls, and lid of the outer packaging, e.g., by cushioning material.
44	Where the signals are contained in magazines for fitting into automatic units, the magazine may replace the inner packaging provided adequate cushioning material is used.
45	Tin-plate inner packagings must be sealed.
46	The sounding device must be wrapped individually in corrugated fiberboard sheets or inserted in fiberboard tubes.
47	Absorbent cushioning material must be inserted.
48	Large articles without propelling charge and without means of ignition or initiation may be carried unpacked.
49	Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpackaged.
50	Large articles without their means of ignition may be carried unpackaged.
53	Bags: sift proof (5H2), recommended only for flake or prilled TNT in the dry state and a maximum net mass of 30 kg (66 pounds).
55	Not more than 50 g (1.8 ounces) of a substance shall be packed in an inner packaging.
56	Fiberboard boxes (4G) are not authorized outer packagings for UN0106 or UN0107.
57	Liner or inner coating required for metal outer packagings unless another means, such as the use of an inner packaging or cushing material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.
58	Plastic receptacles must have taped screw cap closures and be of not more than 5 liters capacity each. Each receptacle should be contained within an intermediate packaging. Each plastic bag should be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material; metal cans in the outer packaging must also be cushioned from each other in all directions. Net mass of propellent should be limited to 30 kg for each package.
59	The intermediate drum must be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material. A composite packaging consisting of a plastic receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellent in each packaging must not exceed 120 liters.
61	The intermediate packaging must be entirely surrounded by wetted cushioning material within the outer packaging.

Number identifying packaging requirement or exception	Explanation of packaging requirement or exception
D2	Quantity limitations for all detonators are as follows unless specifically defined for each type of detonator: (a) For detonators containing no more than 10 g of explosive (excluding ignition and delay charges): (i) No more than 50 detonators may be packed in one inner packaging (ii) No more than 500 detonators may be packed in one outer packaging (b) For detonators containing no more than 3 g of explosive (excluding ignition and delay charges): (i) No more than 100 detonators may be packed in one inner packaging (ii) No more than 1000 detonators may be packed in one outer packaging (c) There are no quantity limitations for detonators classed as 1.4B or 1.4S. The number of detonators that may be packed in each inner or outer (if inner packaging is not required) packaging is determined by: (i) The ability for that package to pass certain tests (see § 173 57) that qualify the detonators to be classed as 1 4B or 1 4S, or (ii) The gross weight limitations of the packaging used.
D3	Inner packaging is not required for electric blasting caps when packed in pasteboard tubes, or when their leg wires are wound on spools with the caps either placed inside the spool or securely taped to the wire on the spool, so as to restrict freedom of movement of the caps and to protect them from impact forces. No more than 500 electric blasting caps shall be contained in one outer packaging
D4	Intermediate packagings are required only for non-electric detonators that are blasting caps or delay connectors in metal tubes
D5	Blasting caps are not required to be attached to the safety fuse, metal clad mild detonating cord, detonating cord, or shock tube
D6	Inner packagings are not required if the packing configuration restricts freedom of movement of the caps and protects them from impact forces.
D7	Quantity limitations for detonator assemblies with detonating cord are (a) No more than 50 detonator assemblies shall be packed in one inner packaging. (b) No more than 500 detonator assemblies shall be packed in one outer packaging.
D8	Quantity limitations for detonator assemblies with safety fuse or shock tube are: (a) No more than 50 detonator assemblies shall be packed in one inner packaging (b) No more than 1,000 detonator assemblies shall be packed in one outer packaging.
D9	Primers fitted with anvil, composition not covered with a disc of metal foil or other material (varnished only) (a) The primers must be packed in rows in single layers in trays of fiberboard or plastic. (b) Not more than 500 primers shall be packed in an inner packaging
D10	Detonators that are blasting caps (including percussion activated) or delay connectors in metal tubes must be packed as follows: (a) The detonators must be packed in an inner packaging with the open end of any detonator covered with appropriate cushioning material; (b) Inner packagings must be snugly packed in an intermediate packaging; (c) Intermediate packagings must be separated from the outside packaging by at least 25 mm (1 inch) of cushioning material; (d) Detonators containing no more than 10 g of explosive (excluding ignition and delay charges) must be packed as follows (i) No more than 50 detonators in one inner packaging. (ii) No more than 500 detonators in one outer packaging. (e) Detonators containing no more than 3 g of explosive (excluding ignition and delay charges) must be packed as follows (i) No more than 110 detonators in one inner packaging. (ii) No more than 5,000 detonators in one outer packaging.
D11	Primers not fitted with an anvil, composition covered, not more than 5,000 primers shall be packed in an inner packaging
D12	Large articles may be carried unpackaged
D13	No inner packaging required for drums, fiber (1G)
D14	Inner packaging is not required with fiberboard boxes (4G) for packaging UN 0332.
D15	Sheets, waterproof, when used, must also be impervious to any liquid explosive ingredients of the substance.

* * * * *

§ 173.62 [Amended]

45. In addition, in § 173.62, in paragraph (e), the phrase "January 1, 1988" would be removed and replaced with the phrase "January 1, 1990" each place it appears.

46. In § 173 115, paragraphs (b)(3) and (b)(4) would be added to read as follows.

§ 173.115 Class 2, Divisions 2.1, 2 2, and 2.3—Definitions.

* * * * *

(b) * * *

(3) Is asphyxiant. An asphyxiant gas is a gas which dilutes or replaces oxygen normally in the atmosphere, or

(4) Is oxidizing An oxidizing gas is defined as a gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does.

* * * * *

§ 173.115 [Amended]

47. In addition, in § 173.115, the wording ", and" at the end of paragraph (b)(1) and the period at the end of paragraph (b)(2) would be removed and replaced with a semicolon.

48. Section 173.120 would be amended by revising paragraph (a) and adding a sentence at the end of paragraph (b)(2) to read as follows.

§ 173.120 Class 3—Definitions.

(a) *Flammable liquid.* For the purpose of this subchapter, a *flammable liquid* (Class 3) means a liquid having a flash point of not more than 60.5 °C (141 °F), or any material in a liquid phase with a flash point at or above 37.8 °C (100 °F) that is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging, with the following exceptions:

(1) Any liquid meeting one of the definitions specified in § 173 115

(2) Any mixture having one or more components with a flash point of 60 5 °C (141 °F) or higher, that make up at

least 99 percent of the total volume of the mixture, if the mixture is not offered for transportation or transported at or above its flash point.

(3) Any liquid with a flash point greater than 35 °C (95 °F) which does not sustain combustion. A procedure for determining if a material sustains combustion when heated under test conditions and exposed to an external source of flame is provided in Appendix H of this part.

(4) Any liquid with a flash point greater than 35 °C (95 °F) and with a fire point greater than 100 °C (212 °F) according to ISO 2592–1973.

(5) Any liquid with a flash point greater than 35 °C (95 °F) which is in a water-miscible solution with a water content of more than 90 percent by mass.

(6) * * *

(2) * * * An elevated temperature material that meets the definition of a Class 3 material because it is intentionally heated and offered for transportation or transported at or above its flash point may not be reclassed as a combustible liquid.

* * * * *

§ 173.120 [Amended]

49. In addition, in § 173.120, the following changes would be made:

a. In paragraph (c)(1)(i)(A), the wording "ASTM D56–79" would be revised to read "ASTM D 56–87".

b. In paragraphs (c)(1)(i)(B) and (c)(1)(ii)(B), the wording "ASTM D3278–78" would be revised to read "ASTM D 3278–89".

c. In paragraph (c)(1)(i)(C)(1), the wording "ASTM D93–80" would be revised to read "ASTM D 93–90".

50. Section 173.121 would be amended by adding a parenthetical note at the end of paragraph (b)(1)(ii) before the semicolon and revising the paragraph (b)(1)(iv) table and paragraph (b)(2)(i) to read as follows:

§ 173.121 Class 3—Assignment of packing group.

* * * * *

(b) * * *

(1) * * *

(ii) * * * (Note: The mixture is not necessarily required to bear a POISON or CORROSIVE subsidiary risk label.)

* * * * *

(iv) * * *

Flow time t in seconds	Jet diameter in mm	Flash point c.c.
20<t≤60	4	Above 17 °C (62.6 °F).
60<t≤100	4	Above 10 °C (50 °F).
20<t≤32	6	Above 5 °C (41 °F).
32<t≤44	6	Above −1 °C (31.2 °F).
44<t≤100	6	Above −5 °C (23 °F).
100<t	6	−5 °C (23 °F) and below.

(2) * * *

(i) *Viscosity test.* The flow time in seconds is determined at 23 °C (73.4 °F) using the ISO standard cup with a 4 mm (0.16 inch) jet (ISO 2431:1984). Where the flow time exceeds 100 seconds, a further test is carried out using the ISO standard cup with a 6 mm (0.24 inch) jet.

51. In § 173.124, the section heading and paragraph (a)(2) would be revised to read as follows:

§ 173.124 Class 4, Divisions 4.1, 4.2 and 4.3—Definitions.

(a) * * *

(2)(i) Self-reactive materials are materials that are thermally unstable and that can undergo a strongly exothermic decomposition even without participation of oxygen (air). A material is excluded from this definition if any of the following applies:

(A) The material meets the definition of an explosive as prescribed in subpart C of this part, in which case it must be classed as an explosive.

(B) The material is forbidden from being offered for transportation according to § 172.101 of this subchapter or § 173.21.

(C) The material meets the definition of an oxidizer or organic peroxide as prescribed in subpart D of this part, in which case it must be so classed.

(D) The material meets one of the following conditions:

(*1*) Its heat of decomposition is less than 300 J/g; or,

(*2*) Its self-accelerating decomposition temperature (SADT) is greater than 75 °C (167 °F); or

(E) The Associate Administrator for Hazardous Materials Safety has determined that the material does not present a hazard which is associated with a Division 4.1 material.

(ii) *Generic types.* Division 4.1 self-reactive materials are assigned to a generic system consisting of seven types. A self-reactive substance identified by technical name in the Self-Reactive Materials Table in § 173.224 is assigned to a generic type in accordance with that Table. Self-reactive materials not identified in the Self-Reactive Materials Table in § 173.224 are assigned to generic types under the procedures of paragraph (a)(2)(iii) of this section.

(A) *Type A.* Self-reactive material type A is a self-reactive material which, as packaged for transportation, can detonate or deflagrate rapidly. Transportation of type A self-reactive material is forbidden.

(B) *Type B.* Self-reactive material type B is a self-reactive material which, as packaged for transportation, neither detonates nor deflagrates rapidly, but is liable to undergo a thermal explosion in a package.

(C) *Type C.* Self-reactive material type C is a self-reactive material which, as packaged for transportation, neither detonates nor deflagrates rapidly and cannot undergo a thermal explosion.

(D) *Type D.* Self-reactive material type D is a self-reactive material which—

(*1*) Detonates partially, does not deflagrate rapidly and shows no violent effect when heated under confinement;

(*2*) Does not detonate at all, deflagrates slowly and shows no violent effect when heated under confinement; or

(*3*) Does not detonate or deflagrate at all and shows a medium effect when heated under confinement.

(E) *Type E.* Self-reactive material type E is a self-reactive material which, in laboratory testing, neither detonates nor deflagrates at all and shows only a low or no effect when heated under confinement.

(F) *Type F.* Self-reactive material type F is a self-reactive material which, in laboratory testing, neither detonates in the cavitated state nor deflagrates at all and shows only a low or no effect when heated under confinement as well as low or no explosive power.

(G) *Type G.* Self-reactive material type G is a self-reactive material which, in laboratory testing, does not detonate in the cavitated state, deflagrate at all, show any effect when heated under confinement, or show any explosive power. A type G self-reactive material is not subject to the requirements of this subchapter for self-reactive material of Division 4.1 provided that it is thermally stable (self-accelerating decomposition temperature is 50 °C (122 °F) or higher for a 50 kg (110 pounds) package). A self-reactive material meeting all characteristics of type G except thermal stability and requiring temperature control is classed as a type F self-reactive material.

(iii) *Procedures for assigning a self-reactive material to a generic type.* A self-reactive material shall be assigned to a generic type based on—

(A) Its physical state (i e liquid or solid), in accordance with the definition of liquid and solid in § 171 8 of this subchapter;

(B) A determination as to its control temperature and emergency temperature, if any, under the provisions of § 173 21(f);

(C) Performance of the self-reactive material under the test procedures specified in the United Nations Recommendations and the provisions of paragraph (a)(2)(iii) of this section; and

(D) For other than a self-reactive material which is identified by technical name in the Self-Reactive Materials Table in § 173.224(b) or a self-reactive material which may be shipped as a sample under the provisions of § 173 224, written approval by the Associate Administrator for Hazardous Materials Safety. The person requesting approval shall submit to the Associate Administrator for Hazardous Materials Safety the tentative shipping description and generic type and—

(*1*) All relevant data concerning physical state, temperature controls, and tests results; or

(*2*) An approval issued for the self-reactive material by the competent authority of a foreign government.

(iv) *Tests.* The generic type for a self-reactive material shall be determined using the testing protocol from Figure 14.2 (Flow Chart for Assigning Self-Reactive Substances to Division 4 1) from the UN Recommendations.

* * * * *

52 In § 173.128, paragraph (b)(7) would be revised, paragraph (c)(4) would be removed, paragraph (d) would be redesignated paragraph (e) and a new paragraph (d) would be added to read as follows:

§ 173.128 Class 5, Division 5.2—Definitions and types.

* * * * *

(b) * * *

(7) *Type G.* Organic peroxide type G is an organic peroxide which will not detonate in a cavitated state, will not deflagrate, shows no effect when heated under confinement, and has no explosive power. A type G organic peroxide is not subject to the requirements of this subchapter for organic peroxides of Division 5.2 provided it is thermally stable (self-accelerating decomposition temperature is 50° C (122° F) or higher for a 50 kg (110 pounds) package). An organic peroxide meeting all characteristics of type G except thermal stability and requiring temperature control is classed as a type F organic peroxide

* * * * *

(d) *Approvals* (1) An organic peroxide must be approved, in writing, by the Associate Administrator for Hazardous Materials Safety, before being offered for transportation, including assignment of a generic type and shipping description, except for—

(i) An organic peroxide which is identified by technical name in the Organic Peroxides Table in § 173.225(b),

(ii) A mixture of organic peroxides prepared according to § 173.225(c)(5); or

(iii) An organic peroxide which may be shipped as a sample under the provisions of § 173.225(c).

(2) A person applying for an approval must submit all relevant data concerning physical state, temperature controls, and tests results or an approval issued for the organic peroxide by the competent authority of a foreign government.

* * * * *

§ 173.128 [Amended]

53. In addition, in § 173.128, the following changes would be made:

a. In paragraph (a) introductory text, the word "apply" would be revised to read "applies",

b. In paragraph (c)(2), the word "and" would be added at the end of the paragraph, and in paragraph (c)(3), at the end of the paragraph, the wording "; and" would be removed and replaced with a period.

54. In § 173.136, paragraph (a) would be revised to read as follows:

§ 173.136 Class 8—Definitions.

(a) For the purpose of this subchapter, "corrosive material" (Class 8) means a liquid or solid that causes full thickness destruction of human skin at the site of contact within a specified period of time. A liquid that has a severe corrosion rate on steel or aluminum based on the criteria in § 173.137(c)(2) is also a corrosive material.

* * * * *

55. In § 173.137, the second sentence of the introductory text, and paragraphs (a), (b), and (c) would be revised to read as follows:

§ 173.137 Class 8—Assignment of packing group.

* * * When the § 172.101 Table provides more than one packing group for a Class 8 material, the packing group must be determined using data obtained from tests conducted in accordance with the 1992 OECD Guidelines for Testing of Chemicals Number 404 "Acute Dermal Irritation/Corrosion" as follows:

(a) *Packing Group I.* Materials that cause full thickness destruction of intact skin tissue within an observation period of up to 60 minutes starting after the exposure time of three minutes or less.

(b) *Packing Group II.* Materials that cause full thickness destruction of intact skin tissue within an observation period of up to 14 days starting after the exposure time of more than three minutes but not more than 60 minutes

(c) *Packing Group III.* Materials, other than those meeting Packing Group I or II criteria—

(1) That cause full thickness destruction of intact skin tissue within an observation period of up to 14 days starting after the exposure time of more than 60 minutes but not more than 4 hours; or

(2) Materials which do not cause full thickness destruction of intact skin tissue but which exhibit a corrosion rate on steel or aluminum surfaces exceeding 6.25 mm (0.25 inch) a year at a test temperature of 55 °C (130 °F) For the purpose of testing steel P3 (ISO 2604 (IV).1975) or a similar type, and for testing aluminum, non-clad types 7075–T6 or AZ5GU–T6 should be used. An acceptable test is described in ASTM G 31–72 (Reapproved 1990).

56. In § 173.150, the section heading and paragraph (d) would be revised to read as follows:

§ 173.150 Exceptions for Class 3 (flammable) and combustible liquids.

* * * * *

(d) *Alcoholic beverages* An alcoholic beverage (wine and distilled spirits as defined in 27 CFR 4.10 and 5.11) is not subject to the requirements of this subchapter if it—

(1) Contains 24 percent or less alcohol by volume;

(2) Is in a packaging of five liters or less, or

(3) Is a Packing Group III alcoholic beverage in a packaging of 250 L (66 gallons) or less, unless transported by air.

* * * * *

§ 173.150 [Amended]

57. In addition, in § 173.150, the following changes would be made:

a. In paragraph (a), the wording "another hazard class." would be revised to read "another hazard class except Division 6.1, Packing Group III or Class 8, Packing Group III.".

b. In the introductory text of paragraph (b), the wording "flammable liquids (Class 3)" would be revised to read "flammable liquids (Class 3) and combustible liquids".

c. In paragraph (b)(3), the wording "flammable liquids in Packing Group III," would be revised to read "flammable liquids in Packing Group III and combustible liquids,".

58. In § 173.152, paragraph (b)(3) would be revised to read as follows

§ 173.152 Exceptions for Division 5.1 (oxidizers) and Division 5.2 (organic peroxides).

* * * * *

(b) * * *

(3) For organic peroxides which do not require temperature control during transportation—

(i) For Type D, E, or F organic peroxides, inner packagings not over 125 ml (4.22 ounces) net capacity each for liquids or 500 g (17.64 ounces) net capacity for solids, packed in strong outer packagings.

(ii) For Type B or C organic peroxides, inner packagings not over 25 ml (0.845 ounces) net capacity each for liquids or 100 g (3.52 ounces) net capacity for solids, packed in strong outer packagings.

* * * * *

§ 173.159 [Amended]

59. In § 173.159, paragraph (d) would be removed and reserved.

60. Section 173.164 would be amended by revising the paragraph (b) introductory text and the last sentence of paragraph (b)(1), redesignating paragraphs (c) and (d) as paragraphs (d) and (e) respectively, and adding a new paragraph (c) to read as follows:

§ 173.164 Mercury (metallic and articles containing mercury).

* * * * *

(b) Manufactured articles or apparatuses containing more than 100 mg (0.0035 ounce) mercury are excepted from the specification packaging requirements of this subchapter when packaged as follows:

(1) * * * Mercury switches and relays are excepted from these packaging requirements, if they are totally enclosed, leak proof and in sealed metal or plastic units.

* * * * *

(c) Manufactured articles or apparatuses, each containing not more than 100 mg (0.0035 ounce) of mercury and packaged so that the quantity of mercury per package does not exceed 1 g (0.035 ounce) are not subject to the requirements of this subchapter.

* * * * *

§ 173.164 [Amended]

61. In addition, in § 173.164, the following changes would be made:

a. In paragraph (a)(1), in the first sentence, the wording "not more than 250 ml (8 oz) capacity each" would be revised to read "not more than 3.5 kg (7.7 pounds) capacity each".

b. In paragraphs (a)(1) and (a)(2), the wording "or reconstituted wood (4F)," would be revised to read ", reconstituted wood (4F), or solid plastic (4H2) boxes," each place it appears.

c. In paragraph (a)(2), immediately following the wording "pack(s) in glass flasks" the wording "of not more than 3.5 kg (7.7 pounds) capacity each" would be added.

62. Section 173.166 would be amended by revising the section heading, adding a new last sentence in paragraph (a), revising paragraph (b), the last sentence of paragraph (c) and paragraph (d)(1) to read as follows:

§ 173.166 Air bag inflators, air bag modules, seat-belt pre-tensioners, and seat-belt modules.

(a) * * * A seat-belt pre-tensioner contains similar hazardous materials and is used in the operation of a seat-belt restraining system in a motor vehicle. A seat-belt module is the seat belt pre-tensioner plus seat-belt hardware.

(b) *Classification.* An air bag inflator, air bag module, seat-belt pre-tensioner or seat-belt module may be classed as Class 9 only if it meets the following requirements—

(1) The manufacturer has submitted each design type air bag inflator or seat-belt pre-tensioner to the Bureau of Explosives (BOE) or the Bureau of Mines (BOM) for examination and testing. The submission must contain a detailed description of the inflator or pre-tensioner (or, if more than a single inflator or pre-tensioner is involved, the maximum parameters of each particular inflator or pre-tensioner design type for which approval is sought) and details on the complete package.

(2) Samples of the inflator or pre-tensioner, packaged as for transport, have been subjected to test series 6(c) of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Second Edition, 1990 with no explosion of the device, no fragmentation of device casings, and no projection hazard or thermal effect which would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.

(3) The manufacturer submits an application, including—

(i) The BOE or BOM test results and report recommending the shipping description and classification for each device or design type; or

(ii) An approved classification issued by the competent authority of a foreign government, to the Associate Administrator for Hazardous Materials Safety, and is notified in writing by the Associate Administrator that the device has been classed as Class 9 and approved for transportation.

(4) No approval applications are required for air bag or seat-belt modules containing an approved air bag inflator or seat-belt pre-tensioner.

(c) * * * A module must be identified with the same EX number or product code of the approved inflator or pre-tensioner.

(d) * * * (1) An air bag or seat-belt module that has been approved by the Associate Administrator for Hazardous Materials Safety and is installed in a motor vehicle or in completed vehicle components, such as steering columns or door panels, is not subject to the requirements of this subchapter.

* * * * *

§ 173.166 [Amended]

63. In addition, in § 173.166, the following changes would be made:

a. In paragraph (c), in the first and second sentences, the wording "or pre-tensioner" would be added immediately following the wording "inflator" each place it appears.

b. In paragraph (d)(2), the wording "or seat-belt," would be added immediately following the wording "air bag," and the wording "or pre-tensioner" would be added immediately following the wording "inflator".

c. In paragraph (f), the wording "FLAMMABLE SOLID label" would be revised to read "CLASS 9 label".

64. Section 173.168 would be added to read as follows:

§ 173.168 Nonspillable wet electric storage batteries.

(a) Nonspillable wet electric storage batteries are batteries from which electrolyte will not flow in the event of a ruptured or cracked case. These batteries must be capable of withstanding the vibration test and the pressure differential test listed below without leakage of battery fluid.

(1) *Vibration test.* The battery must be rigidly clamped to the platform of a vibration machine, and a simple harmonic motion having an amplitude of 0.8 mm (0.03 inches), with a 1.6 mm (0.063 inches) maximum total excursion must be applied. The frequency must be varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return must be traversed in 95±5 minutes for each mounting position (direction of vibration) of the battery. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

(2) *Pressure differential test.* Following the vibration test, the battery must be stored for six hours at 24 °C±4

°C (75 °±7 °F) while subjected to a pressure differential of at least 88 kPa (13 psi) The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

(b) Except as provided in § 175 10(a)(19) of this subchapter, a nonspillable battery is not subject to any other requirements of this subchapter if—

(1) The battery is protected against short circuits and securely packaged, and

(2) For a battery manufactured after September 30, 1995, the battery and any outer packaging is plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY"

§ 173.171 [Amended]

65. In § 173 171, in paragraph (a), the wording "Division 1.3 classification" would be revised to read "Division 1 3 and Division 4.1 classification".

66. Section 173.185 would be revised to read as follows:

§ 173.185 Lithium cells and batteries.

(a) Except as otherwise provided in this subpart, a lithium cell or battery is authorized for transportation only if it conforms to the provisions of this section.

(b) *Exceptions.* Cells and batteries are not subject to the requirements of this subchapter if they meet the following requirements:

(1) Each cell with a liquid cathode may contain no more than 0.5 g (0 02 ounce) of lithium or lithium alloy, and each cell with a solid cathode may contain no more than 1.0 g (0.04 ounce) lithium or lithium alloy;

(2) Each battery with a liquid cathode may contain an aggregate quantity of no more than 1.0 g (0.04 ounce) lithium or lithium alloy, and each battery with a solid cathode may contain an aggregate quantity of no more than 2.0 g (0.07 ounce) of lithium or lithium alloy;

(3) Each cell must be hermetically sealed;

(4) Cells and batteries must be separated so as to prevent short circuits and must be packed in strong packagings, except when installed in equipment; and

(5) If a liquid cathode battery contains more than 0.5 g (0.02 ounce) of lithium or lithium alloy or a solid cathode battery contains more than 1 0 g (0.04 ounce) lithium or lithium alloy, it may not contain a liquid or gas that is a hazardous material according to this subchapter unless the liquid or gas, if free, would be completely absorbed or neutralized by other materials in the battery.

(c) Cells and batteries also are not subject to this subchapter if they meet the following requirements.

(1) Each cell contains not more than 5 g (0 18 ounces) of lithium or lithium alloy,

(2) Each battery contains not more than 25 g (0 88 ounces) of lithium or lithium alloy;

(3) Each cell or battery is of the type proved to be non-dangerous by testing in accordance with tests in Part IV of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Third Edition 1994, such testing should be carried out on each type prior to the initial transport of that type; and

(4) Cells and batteries are designed or packed in such a way as to prevent short circuits under conditions normally encountered in transportation.

(d) Cells and batteries and equipment containing cells and batteries which were first transported prior to January 1, 1995 and were assigned to Class 9 on the basis of the requirements of this subchapter in effect on October 1, 1993 may continue to be transported in accordance with the applicable requirements in effect on October 1, 1993.

(e) Cells and batteries may be transported as items of Class 9 if they meet the requirements in paragraphs (e)(1) through (e)(9) of this section·

(1) Cells must not contain more than 12 g (0 42 ounce) of lithium or lithium alloy. When transported by passenger aircraft, cells must not contain more than 3 g (0 11 ounces) of lithium or lithium alloy.

(2) Batteries must not contain more than 500 g (17.6 ounces) of lithium or lithium alloy. When transported by passenger aircraft, batteries must not contain more than 125 g (4 4 ounces) of lithium or lithium alloy.

(3) Each cell and battery must be equipped with an effective means of preventing external short circuits.

(4) Each cell and battery must incorporate a safety venting device or be designed in a manner that will preclude a violent rupture under conditions normally incident to transportation.

(5) Batteries containing cells or series of cells connected in parallel must be equipped with diodes to prevent reverse current flow.

(6) Cells and batteries must be packed in strong inner packagings containing not more than 500 g (17 6 ounces) of lithium or lithium alloy When transported by passenger aircraft, inner packagings must not contain more than 125 g (4.4 ounces) of lithium or lithium alloy

(7) Cells and batteries must be packed in inner packagings in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits

(8) Cells and batteries must be packaged in packagings conforming to the requirements of part 178 of this subchapter at the Packing Group II performance level:

(i) Inner packagings must be packed within a wooden box (4C1, 4C2, 4D, or 4F), fiberboard box (4G), fiber drum (1G), or metal drum (1A2 or 1B2);

(ii) Cells and batteries intended for air transportation must be packaged in metal drums (1A1 or 1B2) fitted with gas-tight gaskets; and

(iii) When the outer packaging is metal, the inner packagings must be separated from each other and from the outer packaging by at least 25 mm (1 inch) of non-combustible cushioning material.

(9) One of the following criteria must be met:

(i) Each cell or battery is of the type proven to meet the criteria of Class 9 by testing in accordance with tests in Part IV of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Third Edition 1994, or

(ii) Ten cells and one battery of each type taken from production each week should be subjected to extreme temperature exposure and the short circuit test procedures in Part IV of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Third Edition 1994, or, equivalent tests approved by the Associate Administrator for Hazardous Materials Safety. There should be no evidence of distortion, leakage or internal heating in conducting the extreme temperature exposure test procedure. In conducting the short circuit test procedure, if venting occurs, an open flame applied to venting fumes should not produce an explosive condition; or

(iii) Cells and batteries that are hermetically sealed are excepted from paragraphs (e)(8)(ii) and (e)(8)(iii) if the cells and batteries are subjected to the altitude simulation, extreme temperature exposure, vibration, and shock tests described in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Third Edition 1994, or equivalent tests approved by the Associate Administrator for Hazardous Materials Safety, and show no visible evidence of out-gassing, leakage, loss of mass or distortion.

(10) Except as provided in paragraph (i) of this section, cells or batteries may not be offered for transportation or transported if any cell has been

discharged to the extent that the open circuit voltage is less than two volts or is less than 2/3 of the voltage of the fully charged cell, whichever is less.

(f) Equipment containing or packed with cells and batteries meeting the requirements of paragraph (b) or (c) of this section are excepted from all other requirements of this subchapter.

(g) Equipment containing or packed with cells and batteries may be transported as items of Class 9 if the batteries and cells meet all the requirements of paragraph (e) of this section and are packaged as follows:

(1) Equipment containing cells and batteries must be packed in a strong outer packaging that is waterproof or is made waterproof through the use of a liner. The equipment must be secured within the outer packaging and be packed so as to effectively prevent movement, short circuits, and accidental operation during transport; and

(2) Cells and batteries packed with equipment should be packed in inner packagings conforming to paragraph (e)(9) of this section in such a manner as to effectively prevent movement and short circuits. Not more than 5 kg of cells and batteries may be packed with each item of equipment.

(h) Cells and batteries, for disposal, may be offered for transportation or transported to a permitted storage facility and disposal site by motor vehicle when they meet the following requirements:

(1) Cells must not contain more than 12 g (0.42 ounce) and batteries must not contain more than 500 g (17.6 ounces) of lithium or lithium alloy;

(2) Be equipped with an effective means of preventing external short circuits; and

(3) Are packed in a strong outer packaging conforming to the requirements of §§ 173.24 and 173.24a. The packaging need not conform to performance requirements of part 178 of this subchapter.

(i) Cells and batteries and equipment containing or packed with cells and batteries which do not comply with the provisions of this section may be transported only if they are approved by the Associate Administrator for Hazardous Materials Safety.

(j) For testing purposes, cells containing not more than 12 g (0.42 ounce) of lithium or lithium alloy and batteries containing not more than 500 g (17.6 ounces) of lithium or lithium alloy may be offered for transportation or transported by highway only as items of Class 9. Packaging must conform with paragraphs (e)(8)(i) and (iii) of this section with not more than 100 cells per package.

67. Section 173.189 would be added to read as follows:

§ 173.189 Batteries containing sodium or cells containing sodium.

(a) Batteries and cells may not contain any hazardous material other than sulfur. Cells not forming a component of a completed battery may not be offered for transportation at a temperature at which any liquid sodium is present in the cell. Batteries may only be offered for transportation, or transported, at a temperature at which any liquid sodium present in the battery conforms to the conditions prescribed in paragraph (d) of this section.

(b) Cells must consist of hermetically sealed metal casings which fully enclose the hazardous materials and which are so constructed and closed as to prevent the release of the hazardous materials under normal conditions of transport. Cells must be placed in suitable outer packagings with sufficient cushioning material to prevent contact between cells and between cells and the internal surfaces of the outer packaging, and to ensure that no dangerous movement of the cells within the outer packaging occurs in transport. Cells must be packaged in 1A2, 1B2, 1D, 1G, 1H2, 4C, 4D, 4F, 4G or 4H2 outer packagings which meet the requirements of part 178 of this subchapter at the Packing Group II performance level.

(c) Batteries must consist of cells secured within, and fully enclosed by a metal casing so constructed and closed as to prevent the release of the hazardous materials under normal conditions of transport. Batteries may be offered for transportation, and transported, unpacked or in protective packagings that are not subject to the requirements of part 178 of this subchapter.

(d) Batteries containing any liquid sodium may not be offered for transportation, or transported, by aircraft. Batteries containing liquid sodium may be transported by motor vehicle, rail car or vessel under the following conditions:

(1) Batteries must be equipped with an effective means of preventing external short circuits, such as by providing complete electrical insulation of battery terminals or other external electrical connectors. Battery terminals or other electrical connectors penetrating the heat insulation fitted in battery castings must be provided with thermal insulation sufficient to prevent the temperature of the exposed surfaces of such devices from exceeding 55 °C (130 °F).

(2) No battery may be offered for transportation if the temperature at any point on the external surface of the battery exceeds 55 °C (130 °F).

(3) If any external source of heating is used during transportation to maintain sodium in batteries in a molten state, means must be provided to ensure that the internal temperature of the battery does not reach or exceed 400 °C (752 °F).

(4) When loaded in a transport vehicle or freight container:

(i) Batteries must be secured so as to prevent significant movement within the transport vehicle or freight container under conditions normally incident to transportation;

(ii) Adequate ventilation and/or separation between batteries must be provided to ensure that the temperature at any point on the external surface of the battery casing will not exceed 240 °C (464 °F) during transportation; and

(iii) No other hazardous materials, with the exception of cells containing sodium, may be loaded in the same transport vehicle or freight container. Batteries must be separated from all other freight by a distance of not less than 0.5 meters (1.6 feet).

§ 173.196 [Amended]

68. In § 173.196, in paragraph (f), the wording "the primary receptacle and secondary packaging" would be revised to read "the primary receptacle or secondary packaging".

§ 173.211 [Amended]

69. In § 173.211, in paragraph (e), for the entry "Steel box with liner:", the wording "4A2" would be revised to read "4A"; and for the entry "Aluminum box with liner:" the wording "4B2" would be revised to read "4B".

§ 173.212 [Amended]

70. In § 173.212, in paragraph (c), for the entry "Steel box:" the wording "4A1" would be revised to read "4A"; for the entry "Steel box with liner:" the wording "4A2" would be revised to read "4A"; for the entry "Aluminum box:" the wording "4B1" would be revised to read "4B"; and for the entry "Aluminum box with liner:" the wording "4B2" would be revised to read "4B".

§ 173.213 [Amended]

71. In § 173.213, in paragraph (c), for the entry "Steel box with liner:" the wording "4A2" would be revised to read "4A"; for the entry "Steel box:" the wording "4A1" would be revised to read "4A"; and for the entry "Aluminum box with liner:" the

wording "4B2" would be revised to read "4B".

72. Section 173 224 would be revised to read as follows:

§ 173.224 Packaging and control and emergency temperatures for self-reactive materials.

(a) *General.* When the § 172.101 Table of this subchapter specifies that a Division 4 1 material be packaged in accordance with this section, only packagings which conform to the provisions of this section may be used Each packaging must conform to the general packaging requirements of subpart B of this part and the applicable requirements of part 178 of this subchapter Non-bulk packagings must meet Packing Group II performance levels. To avoid unnecessary confinement, metallic non-bulk packagings meeting Packing Group I are not authorized. Self-reactive materials which require temperature control are subject to the provisions of § 173.21(f). Packagings required to bear a Class 1 subsidiary label must conform to §§ 173 60 through 173.62.

(b) *Self-Reactive Materials Table.* The self-reactive materials table specifies, by technical name, those self-reactive materials that are authorized for transportation and not subject to the approval provisions of § 173.124(a)(2)(vii). A self-reactive material identified by technical name in the following table is authorized for transportation only if it conforms to all applicable provisions of the table. The column headings of the Self-Reactive Materials Table are as follows:

(1) *Technical name* Column 1 specifies the technical name.

(2) *ID number.* Column 2 specifies the identification number which is used to identify the proper shipping name in the § 172 101 Table.

(3) *Concentration of self-reactive material.* Column 3 specifies the concentration (percent) limitations, if any, in mixtures or solutions for the self-reactive material. Limitations are given as minimums, maximums, or a range, as appropriate. A range includes the lower and upper limits (i e , "53–100" means from, and including, 53 percent to, and including 100 percent).

(4) *Packing method.* Column 4 species the highest packing method which is authorized for the self-reactive material A packing method corresponding to a smaller package size may be used, but a packing method corresponding to a larger package size may not be used The Table of Packing Methods in § 173 225(d) defines the packing methods. Additional bulk packagings are authorized in paragraph (d) of this section for Type F self-reactive materials.

(5) *Control temperature.* Column 5 specifies the control temperature in °C. Temperatures are specified only when temperature controls are required (see § 173.21(f)).

(6) *Emergency temperature* Column 6 specifies the emergency temperature in °C. Temperatures are specified only when temperature controls are required (see § 173.21(f)).

(7) *Notes.* Column 7 specifies other applicable provisions, as set forth in notes following the table.

SELF-REACTIVE MATERIALS TABLE

Self-reactive substance (1)	Identification number (2)	Concentration (%) (3)	Packing method (4)	Control temperature (°C) (5)	Emergency temperature (°C) (6)	Notes (7)
Azodicarbonamide formulation type B	3232	<100	OP5B			
Azodicarbonamide formulation type C	3234	<100	OP6A			
Azodicarbonamide formulation type D	3236	<100	OP7B			
2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitrile)	3236	100	OP7B	−5	+5	
2,2'-Azodi(2,4-dimethylvaleronitrile)	3236	100	OP7B	+10	+15	
2,2'-Azodi(ethyl 2-methylpropionate)	3235	100	OP7A	+20	+25	
1,1-Azodi(hexahydrobenzonitrile)	3236	100	OP7B			
2,2'-Azodi(isobutyronitrile)	3234	100	OP6B	+40	+45	
2,2'-Azodi(2-methylbutyronitrile)	3236	100	OP7B	+35	+40	
Benzene-1,3-disulphohydrazide, as a paste	3236	52	OP7B			
Benzene sulphohydrazide	3236	100	OP7B			
4-(Benzyl(ethyl)amino)-3-ethoxybenzenediazonium zinc chloride.	3236	100	OP7B			
4-(Benzyl(methyl)amino)-3-ethoxybenzenediazonium zinc chloride.	3236	100	OP7B	+40	+45	
3-Chloro-4-Diethylamino-benzenediazonium zinc chloride.	3236	100	OP7B			
2-Diazo-1-Naphthol-4-sulphochloride	3222	100	OP5B			
2-Diazo-1-Naphthol-5-sulphochloride	3222	100	OP5B			
2,5-Diethoxy-4-morpholino-benzenediazonium zinc chloride.	3236	67–100	OP7B	+35	+40	
2,5-Diethoxy-4-morpholino-benzenediazonium zinc chloride.	3236	66	OP7B	+40	+45	
2,5-Diethoxy-4-morpholino-benzenediazonium tetrafluoroborate	3236	100	OP7B	+30	+35	
2,5-Diethoxy-4-(phenylsulphonyl)benzenediazonium zinc chloride.	3236	67	OP7B	+40	+45	
2,5-Dimethoxy-4-(4-methylphenylsulphony)benzene-diazonium zinc chloride.	3236	79	OP7B	+40	+45	
4-Dimethylamino-6-(2-dimethylaminoethoxy)toluene-2-diazonium zinc chloride.	3236	100	OP7B	+40	+45	
N,N'-Dinitroso-N,N'-dimethyl- terephthalamide, as a paste.	3224	72	OP6B			

SELF-REACTIVE MATERIALS TABLE—Continued

Self-reactive substance (1)	Identification number (2)	Concentration (%) (3)	Packing method (4)	Control temperature (°C) (5)	Emergency temperature (°C) (6)	Notes (7)
N,N'-Dinitrosopentamethylenetetramine	3224	82	OP6B			1
Diphenyloxide-4,4'-disulphohydrazide	3226	100	OP7B			
4-Dipropylaminobenzenediazonium zinc chloride	3226	100	OP7B			
2-(N,N-Ethoxycarbonylphenylamino)-3-methoxy-4-(N-methyl-N-cyclohexylamino)benzenediazonium zinc chloride	3236	63–92	OP7B	+40	+45	
2-(N,N-Ethoxycarbonylphenylamino)-3-methoxy-4-(N-methyl-N-cyclohexylamino)benzenediazonium zinc chloride	3236	62	OP7B	+35	+40	
N-Formyl-2-(nitromethylene)-1,3-perhydrothiazine	3236	100	OP7B	+45	+50	
2-(2-Hydroxyethoxy)-1-(pyrrolidin-1-yl)benzene-4-diazonium zinc chloride	3236	100	OP7B	+45	+50	
3-(2-Hydroxyethoxy)-4-(pyrrolidin-1-yl)benzenediazonium zinc chloride	3236	100	OP7B	+40	+45	
2-(N,N-Methylaminoethylcarbonyl)-4-(3,4-dimethylphenylsulphonyl)benzene-diazonium zinc chloride	3236	96	OP7B	+45	+50	
4-Methylbenzenesulphonylhydrazide	3226	100	OP7B	+40	+45	
3-Methyl-4-(pyrrolidin-1-yl) benzenediazonium tetrafluoroborate	3234	95	OP6B	+45	+50	
4-Nitrosophenol	3236	100	OP7B	+35	+40	
Self-reactive liquid, sample	3223		OP2A			2
Self-reactive liquid, sample, temperature control	3233		OP2A			2
Self-reactive solid, sample	3224		OP2B			2
Self-reactive solid, sample, temperature control	3234		OP2B			2
Sodium 2-diazo-1-naphthol-4-sulphonate	3226	100	OP7B			
Sodium 2-diazo-1-naphthol-5-sulphonate	3226	100	OP7B			
Tetramine palladium (II) nitrate	3234	100	OP6B	+30	+35	

1. With a compatible diluent having a boiling point of not less than 150 C.
2. Samples may only be offered for transportation when all available data indicate that the sample is no more dangerous than a self-reactive substance type C, and the sample is packaged using packaging method OP2A for liquids or OP2B for solids, as appropriate, in quantities less than 10 kg per shipment, employing any necessary temperature controls.

(c) *New self-reactive materials, formulations and samples* (1) Except as provided for samples in paragraph (c)(4) of this section, no person may offer, accept for transportation, or transport a self-reactive material which is not identified by technical name in the Self-Reactive Materials Table of this section, or a formulation of one or more self-reactive materials which are identified by technical name in the table, unless the self-reactive material is assigned a generic type and shipping description and is approved by the Associate Administrator for Hazardous Materials Safety under the provisions of § 173.124(a)(2)(vii).

(2) Except as provided by an approval issued under § 173.124(a)(2)(vii), intermediate bulk and bulk packagings are not authorized.

(3) Non-bulk packagings are authorized as specified in the Packing Method Table for Generic Types, as follows. Column 1 of the table specifies the generic type by identification number. Column 2 of the table specifies the generic proper shipping name from the § 172.101 Table. Column 3 of the table specifies the series of packing methods authorized for use. The Table of Packing Methods in § 173.225(d) defines the packing methods. The Packing Method Table for Generic Types is as follows:

Packing Method Table for Generic Types

PACKING METHOD TABLE FOR GENERIC TYPES

UN No. (1)	Proper shipping name (2)	Packing method (3)
3221 ..	Self-reactive liquid Type B.	OP1A–OP5A
3222 ..	Self-reactive solid Type B	OP1B–OP5B
3223 ..	Self-reactive liquid Type C.	OP1A–OP6A
3224 ..	Self-reactive solid Type C.	OP1B–OP6B
3225 ..	Self-reactive liquid Type D.	OP1A–OP7A
3226 ..	Self-reactive solid Type D.	OP1B–OP7B

PACKING METHOD TABLE FOR GENERIC TYPES—Continued

UN No. (1)	Proper shipping name (2)	Packing method (3)
3227 ..	Self-reactive liquid Type E.	OP1A–OP8A
3228 ..	Self-reactive solid Type E.	OP1B–OP6B
3229 ..	Self-reactive liquid Type F.	OP1A–OP8A
3230 ..	Self-reactive solid Type F.	OP1B–OP8B
3231 ..	Self-reactive liquid Type B, temperature controlled.	OP1A–OP5A
3232 ..	Self-reactive solid Type B, temperature controlled.	OP1B–OP6B
3233 ..	Self-reactive liquid Type C, temperature controlled.	OP1A–OP6A
3234 ..	Self-reactive solid Type C, temperature controlled.	OP1B–OP7B
3235 ..	Self-reactive liquid Type D, temperature controlled	OP1A–OP7A

PACKING METHOD TABLE FOR GENERIC TYPES—Continued

UN No (1)	Proper shipping name (2)	Packing method (3)
3236	Self-reactive solid Type D, temperature controlled	OP1B–OP8B
3237	Self-reactive liquid Type E, temperature controlled.	OP1A–OP8A
3238	Self-reactive solid Type E, temperature controlled.	OP1B–OP8B
3239	Self-reactive liquid Type F, temperature controlled.	OP1A–OP8A
3240	Self-reactive solid Type F, temperature controlled.	OP1B–OP8B

(4) *Samples.* Samples of new self-reactive materials or new formulations of self-reactive materials identified in the Self-Reactive Materials Table in paragraph (b) of this section, for which complete test data are not available, and which are to be transported for further testing or evaluation, may be assigned an appropriate shipping description for Self-reactive materials Type C, packaged and offered for transportation under the following conditions:

(i) Data available to the person offering the material for transportation must indicate that the sample would pose a level of hazard no greater than that of a self-reactive material Type B and that the control temperature, if any, is sufficiently low to prevent any dangerous decomposition and sufficiently high to prevent any dangerous phase separation,

(ii) The sample must be packaged in accordance with packing method OP2A or OP2B, for a liquid or a solid, respectively;

(iii) Packages of the self-reactive material may be offered for transportation and transported in a quantity not to exceed 10 kg (22 pounds) per transport vehicle, and

(iv) One of the following shipping descriptions must be assigned.

(A) Self-reactive, liquid, type C, 4.1, UN3223.

(B) Self-reactive, solid, type C, 4.1, UN3224.

(C) Self-reactive, liquid, type C, temperature controlled, 4.1, UN3233.

(D) Self-reactive, solid, type C, temperature controlled, 4.1, UN3234.

(d) Self-reactive substances of Type F may not be transported in bulk or intermediate bulk containers except as approved, in writing, by the Associate Administrator for Hazardous Materials Safety.

73. In § 173.225, the fourth sentence of paragraph (a) and the Organic Peroxides Table in paragraph (b) would be revised, and a new paragraph (c)(5) would be added to read as follows:

§ 173.225 Packaging requirements and other provisions for organic peroxides.

(a) * * * To avoid unnecessary confinement, metallic non-bulk packagings meeting Packing Group I are not authorized * * *

(b) * * *

ORGANIC PEROXIDES TABLE

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %) A (4a)	Diluent (Mass %) B (4b)	Diluent (Mass %) I (4c)	Water (Mass %) (5)	Packing Method (6)	Temperature(°C) Control (7a)	Temperature(°C) Emergency (7b)	Notes (8)
Acetyl acetone peroxide	UN3105	≤42	≥48			≥8	OP7A			2
Acetyl acetone peroxide *as a paste*	UN3106	≤32					OP7B			21
Acetyl benzoyl peroxide	UN3105	≤45	≥55				OP7A			
Acetyl cyclohexanesulfonyl peroxide	UN3112	≤82				≥12	OP4B	-10	0	
Acetyl cyclohexanesulfonyl peroxide	UN3115	≤32		≥68			OP7A	-10	0	
tert-Amyl hydroperoxide	UN3107	≤88	≥6			≥6	OP8A			
tert-Amyl peroxyacetate	UN3107	≤62	≥38				OP8A			
tert-Amyl peroxybenzoate	UN3105	≤96	≥4				OP7A			
tert-Amyl peroxy-2-ethylhexanoate	UN3115	≤100					OP7A	+20	+25	
tert-Amyl peroxy-2-ethylhexyl carbonate	UN3103	92-100					OP5A			
tert-Amyl peroxyneodecanoate	UN3115	≤77		≥23			OP7A	0	+10	
tert-Amyl peroxypivalate	UN3113	≤77		≥23			OP5A	+10	+15	
tert-Amylperoxy-3,5,5-trimethylhexanoate	UN3101	≤100					OP5A			
2,2-Bis(4,4-di(tert-butylperoxycyclohexyl)propane	UN3107	≤25		≥75			OP8A			
tert-Butyl cumyl peroxide	UN3105	>42 - 100					OP7A			1, 9
tert-Butyl cumyl peroxide	UN3106	≤42			≥58		OP7B			
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3103	>52 - 100					OP5A			
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3106	>42 - 52			≥48		OP7B			
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3108	≤42			≥58		OP8A			
tert-Butyl hydroperoxide	UN3103	>79 - 90				≥10	OP5A			13
tert-Butyl hydroperoxide	UN3105	≤80	≥20				OP7A			4, 13
tert-Butyl hydroperoxide	UN3107	≤79				>14	OP8A			13, 16
tert-Butyl hydroperoxide	UN3109	≤72				≤28	OP8A			14
tert-Butyl hydroperoxide	UN3109	≤72				≥28	OP8A			13, 14
tert-Butyl hydroperoxide + Di-tert-butylperoxide	UN3103	<82 + >9				≥7	OP5A			13
tert-Butyl monoperoxymaleate	UN3102	>52 - 100					OP5B			
tert-Butyl monoperoxymaleate	UN3103	≤52	≥48				OP6A			
tert-Butyl monoperoxymaleate	UN3108	≤52			≥48		OP8B			
tert-Butyl monoperoxymaleate *as a paste*	UN3010	≤42					OP8B			21
tert-Butyl monoperoxymaleate *as a paste*	UN3108	≤52					OP8B			21
tert-Butyl monoperoxyphthalate	UN3102	≤100					OP5B			
tert-Butyl peroxyacetate	UN3101	>52 - 77	≥23				OP5A			
tert-Butyl peroxyacetate	UN3103	>32 - 52	≥48				OP6A			
tert-Butyl peroxyacetate	UN3109	≤32	≥68				OP8A			10
tert-Butyl peroxyacetate	UN3119	≤32		≥68				+30	+35	10, 14
tert-Butyl peroxybenzoate	UN3103	>77 - 100	≤22				OP5A			
tert-Butyl peroxybenzoate	UN3105	>52 - 77	≥23				OP7A			1
tert-Butyl peroxybenzoate	UN3106	≤52			≥48		OP7B			
tert-Butyl peroxybutyl fumarate	UN3105	≤52	≥48				OP7A			
tert-Butyl peroxycrotonate	UN3105	≤77	≥23				OP7A			
tert-Butyl peroxydiethylacetate	UN3113	≤100					OP5A	+20	+25	
tert-Butyl peroxydiethylacetate + tert-Butyl peroxybenzoate	UN3105	≤33 + ≤33	≥33				OP7A			

ORGANIC PEROXIDES TABLE—Continued

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %) A (4a)	B (4b)	C (4c)	Water (Mass %) (5)	Packing Method (6)	Temperature (°C) Control (7a)	Temperature (°C) Emergency (7b)	Notes (8)
tert-Butyl peroxy-2-ethylhexanoate	UN3113	52 - 100					OP6A	+20	+25	
tert-Butyl peroxy-2-ethylhexanoate	UN3117	32 - 52		≥48			OP6B	+30	+35	
tert-Butyl peroxy-2-ethylhexanoate	UN3118	32			≥48		OP6B	+20	+25	
tert-Butyl peroxy-2-ethylhexanoate	UN3118	32		≥68			OP6A	+30	+35	
tert-Butyl peroxy-2-ethylhexanoate	UN3119	32		≥68			OP6A	+40	+45	14
tert-Butyl peroxy-2-ethylhexanoate	UN3119	32		≥68				+40	+45	
tert-Butyl peroxy-2-ethylhexanoate	UN3119	32		≥68				+30	+35	10
tert-Butyl peroxy-2-ethylhexanoate + 2,2-di-(tert-Butylperoxy)butane	UN3106	12 + 14	≥14		≥60		OP7B	+10	+15	14
tert-Butyl peroxy-2-ethylhexanoate + 2,2-di-(tert-Butylperoxy)butane	UN3115	31 + 36		≥33			OP7A	+35	+40	
tert-Butyl peroxy-2-ethylhexylcarbonate	UN3105	100					OP7A			
tert-Butyl peroxyisobutyrate	UN3111	52 - 77		≥23			OP5A	+15	+20	
tert-Butyl peroxyisobutyrate	UN3115	52		≥48			OP7A	+15	+20	
tert-Butyl peroxy isopropylcarbonate	UN3109	77	≥23				OP5A			
1-(2-tert-Butylperoxy isopropyl)-3-isopropenylbenzene	UN3106	77	≥23				OP8A			
1-(2-tert-Butylperoxy isopropyl)-3-isopropenylbenzene	UN3108	42			≥58		OP8B			
tert-Butyl peroxy-2-methylbenzoate	UN3103	100					OP5A			
tert-Butyl peroxyneodecanoate	UN3115	77	≥23				OP7A	0	+10	
tert-Butyl peroxyneodecanoate	UN3115	77 - 100					OP7A	-5	+5	
tert-Butyl peroxyneodecanoate *as a paste*	UN3117	42					OP8A	0	+10	21
tert-Butyl peroxyneodecanoate *as a paste (frozen)*	UN3118	42					OP6B	+10	+10	21
3-tert-Butylperoxy-3-phenylphthalide	UN3106	100					OP7B			
tert-Butyl peroxypivalate	UN3115	67 - 77	≥23				OP5A	0	+10	
tert-Butyl peroxypivalate	UN3115	27 - 67		≥33			OP7A	0	+10	
tert-Butyl peroxypivalate	UN3119	27		≥73			OP8A	+30	+35	14
tert-Butyl peroxypivalate	UN3119	27		≥73			OP8A	+30	+35	14
tert-Butyl peroxypivalate	UN3119	27		≥73				+10	+15	10
tert-Butylperoxy stearylcarbonate	UN3119	27		≥73				+5	+5	14
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3106	100					OP7B			
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3105	32 - 100					OP7A			
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3109	32	≥68				OP8A			
3-Chloroperoxybenzoic acid	UN3119	32	≥68							10
3-Chloroperoxybenzoic acid	UN3102	57 - 86			≥14		OP1B	+35	+40	14
3-Chloroperoxybenzoic acid	UN3106	57			≥43	≥40	OP7B			
Cumyl hydroperoxide	UN3106	72			≥10	≥18	OP7B			
Cumyl hydroperoxide	UN3107	90 - 96	≥10				OP8A			13
Cumyl hydroperoxide	UN3109	90	≥10				OP8A			14
Cumyl peroxyneodecanoate	UN3109	90	≥10				OP8A			13, 15, 14
Cumyl peroxypivalate	UN3115	77		≥23			OP7A	-10	0	
Cyclohexanone peroxide(s)	UN3115	77		≥23			OP7A	-10	0	
Cyclohexanone peroxide(s)	UN3104	91				≥9	OP6B			13
Cyclohexanone peroxide(s)	UN3105	72		≥28			OP7A			5
Cyclohexanone peroxide(s) *as a paste*	Exempt	72			≥68		Exempt			13
	UN3106	72					OP7B			5, 21
Diacetone alcohol peroxides	UN3115	57		≥26		≥8	OP7A	+45	+45	5
Diacetyl peroxide	UN3115	27		≥73			OP7A	+20	+25	5
Diacetyl peroxide	UN3115	27		≥73			OP7A	+20	+25	5, 13
Di-tert-amyl peroxide	UN3107	100					OP8A			
1,1-Di-(tert-amylperoxy)cyclohexane	UN3103	80	≥20				OP6A			
Dibenzoyl peroxide	UN3102	51 - 100			≥48		OP2B			
Dibenzoyl peroxide	UN3102	77 - 94				≥6	OP4B			3
Dibenzoyl peroxide	UN3104	77				≥23	OP6B			
Dibenzoyl peroxide	UN3106	35 - 52			≥48		OP7B			
Dibenzoyl peroxide	UN3106	52			≥28	≥10	OP7B			
Dibenzoyl peroxide	UN3107	36 - 42	≥18			≥40	OP8A			
Dibenzoyl peroxide	UN3107	36 - 42	≥58				OP8A			
Dibenzoyl peroxide *as a paste*	Exempt	35			≥65		Exempt			
	UN3106	52 - 62					OP7B			21
Dibenzoyl peroxide *as a paste*	UN3108	52					OP8B			21
Dibenzoyl peroxide *as a paste*	UN3108	52				≥15	OP8B			21
Dibenzoyl peroxide *as a paste*	Exempt	50				≥18	Exempt			21
Dibenzyl peroxydicarbonate	UN3112	87				≥13	OP5B	+25	+30	
Di-(4-tert-butylcyclohexyl)peroxydicarbonate	UN3114	100					OP5B	+30	+35	
Di-(4-tert-butylcyclohexyl) peroxydicarbonate	UN3114	100					OP5B	+30	+35	
Di-[4-(4-tert-butylcyclohexyl)peroxydicarbonate *as a stable dispersion in water*	UN3119	42					OP6A	+30	+35	10
Di-tert-butyl peroxide	UN3107	32 - 100					OP8A			
Di-tert-butyl peroxide	UN3109	22		≥78			OP8A			14
Di-tert-butyl peroxide	UN3108	32	≥68				OP8A			14
Di-tert-butyl peroxyazelate	UN3105	52	≥48				OP7A			
2,2-Di-(tert-butylperoxy)butane	UN3103	52	≥48				OP6A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3101	80 - 100					OP5A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3103	52 - 80	≥20				OP5A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3105	52	≥48				OP7A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3106	42	≥13		≥45		OP7B			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3107	27	≥36				OP8A			22
1,1-Di-(tert-butylperoxy)cyclohexane	UN3109	13	≥13	≥74			OP8A			14
Di-n-butyl peroxydicarbonate	UN3109	23	≥25	≥50			OP8A			14
Di-n-butyl peroxydicarbonate	UN3115	27 - 52		≥48			OP7A	-15	-5	
Di-sec-butyl peroxydicarbonate	UN3117	27		≥73			OP8A	-10	0	
	UN3113	52 - 100					OP5A	-20	-10	

ORGANIC PEROXIDES TABLE—Continued

Technical Name	ID Number	Concentration (Mass %)	Diluent (Mass %)			Water (Mass %)	Packing Method	Temperature(°C)		Notes
			A	B	I			Control	Emergency	
(1)	(2)	(3)	(4a)	(4b)	(4c)	(5)	(6)	(7a)	(7b)	(8)
Di-sec-butyl peroxydicarbonate	UN3115	≤52		≥48			OP7A	-15	-5	
Di-(2-tert-butylperoxyisopropyl)benzene(s)	UN3106	>42 - 100			≤57		OP7B			1 9
Di-(2-tert-butylperoxyisopropyl)benzene(s)	Exempt	≤42			≥58		Exempt			
Di-(tert-butylperoxy)phthalate	UN3105	>42 - 52	≥48				OP7A			
Di-(tert-butylperoxy)phthalate	UN3107	≤42	≥58				OP8A			
Di-(tert-butylperoxy)phthalate *as a paste*	UN3106	≤52					OP7B			21
2,2-Di-(tert-butylperoxy)propane	UN3105	≤52	≥48				OP7A			
2,2-Di-(tert-butylperoxy)propane	UN3106	≤42	≥13		≤45		OP7B			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3101	>90 - 100					OP5A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3103	>57 - 90	≥10				OP5A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3106	≤57			≤43		OP7B			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3107	≤32	≥26	≥42			OP8A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3107	≤57	≥43				OP8A			
Dicetyl peroxydicarbonate	UN3116	≤100					OP7B	+20	+25	
Dicetyl peroxydicarbonate *as a stable dispersion in water*	UN3119	≤42					OP8A	+30	+35	10
Di-4-chlorobenzoyl peroxide	UN3102	≤77				≥23	OP5B			
Di-4-chlorobenzoyl peroxide	Exempt	≤32			≥68		Exempt			
Di-4-chlorobenzoyl peroxide *as a paste*	UN3106	≤52					OP7B			21
Dicumyl peroxide	UN3109	>42 - 100					OP8A			9 14
Dicumyl peroxide	UN3110	>42 - 100			≥57		OP8B			9 11 14
Dicumyl peroxide	Exempt	≤42			≥58		Exempt			
Dicyclohexyl peroxydicarbonate	UN3112	>91 - 100					OP3B	+5	+10	
Dicyclohexyl peroxydicarbonate	UN3114	≤91				≥9	OP5B	+5	+10	
Didecanoyl peroxide	UN3114	≤100					OP6B	+30	+35	
2,2-Di-(4 4-di(tert-butylperoxy)cyclohexyl)propane	UN3106	≤42			≥58		OP7B			
Di-2,4-dichlorobenzoyl peroxide	UN3102	≤77				≥23	OP5B			
Di-2,4-dichlorobenzoyl peroxide *as a paste with silicon oil*	UN3106	≤52					OP7B			
Di-(2-ethylhexyl) peroxydicarbonate	UN3113	>77 - 100					OP5A	-20	10	
Di-(2-ethylhexyl) peroxydicarbonate	UN3115	≤77					OP7A	-15	-5	
Di-(2-ethylhexyl) peroxydicarbonate *as a stable dispersion in water*	UN3117	≤42					OP8A	-15	-5	
Di-(2-ethylhexyl) peroxydicarbonate *as a stable dispersion in water (frozen)*	UN3118	≤42					OP8B	-15	-5	
Diethyl peroxydicarbonate	UN3115	≤27		≥73			OP7A	-10	0	
2,2-Dihydroperoxypropane	UN3102	≤27			≥73		OP5B			
Di-(1-hydroxycyclohexyl)peroxide	UN3106	≤100					OP7B			
Diisobutyryl peroxide	UN3111	>32 - 52		≤48			OP5A	-20	-10	
Diisobutyryl peroxide	UN3115	≤32		≥66			OP7A	-20	-10	
Di-isopropylbenzene dihydroperoxide	UN3106	≥82	≥5			≥5	OP7B			17
Diisopropyl peroxydicarbonate	UN3112	>52 - 100					OP2B	-15	-5	
Diisopropyl peroxydicarbonate	UN3115	≤52		≥48			OP7A	-10	0	
Diisotridecyl peroxydicarbonate	UN3115	≤100					OP7A	-10	0	
Dilauroyl peroxide	UN3106	≤100					OP7B			
Dilauroyl peroxide *as a stable dispersion in water*	UN3109	≤42					OP8A			10
Di-(2-methylbenzoyl) peroxide	UN3112	≤87				≥13	OP5B	+30	+35	
Di-(4-methylbenzoyl)peroxide *as a paste with silicon oil*	UN3106	≤52					OP7B			
2,5-Dimethyl-2,5-di-(benzoylperoxy)hexane	UN3102	>82 - 100					OP5B			
2,5-Dimethyl-2,5-di-(benzoylperoxy)hexane	UN3104	≤82				≥18	OP5B			
2,5-Dimethyl-2,5-di-(benzoylperoxy)hexane	UN3106	≤82			≥18		OP7B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3105	>52 - 100					OP7A			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3106	≤70			≥30		OP7B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3109	≤52	≥48				OP8A			14
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3109	≤52	≥48				OP8A			14
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane *as a paste*	UN3108	≤47					OP8B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexyne-3	UN3103	>52 - 100					OP5A			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexyne-3	UN3106	≤52			≥48		OP7B			
2,5-Dimethyl-2,5-di-(2-ethylhexanoylperoxy)hexane	UN3115	≤100					OP7A	+20	+25	
2,5-Dimethyl-2,5-dihydroperoxyhexane	UN3104	≤82				≤18	OP6B			
2,5-Dimethyl-2,5-di-(3,5,5-trimethylhexanoylperoxy)hexane	UN3105	≤77	≥23				OP7A			
1,1-Dimethyl-3-hydroxybutylperoxyneoheptanoate	UN3117	≤52		≥48			OP8A	+0	+10	
Dimyristyl peroxydicarbonate	UN3116	≤100					OP7B	+20	+25	
Dimyristyl peroxydicarbonate *as a stable dispersion in water*	UN3119	≤42					OP8A	+20	+25	
Dimyristyl peroxydicarbonate *as a stable dispersion in water*	UN3119	≤42						+15	+25	10
Di-(2-neodecanoylperoxyisopropyl) benzene	UN3115	≤52	≥48				OP7A	-10	0	
Di-n-nonanoyl peroxide	UN3116	≤100					OP7B	0	+10	
Di-n-octanoyl peroxide	UN3114	≤100					OP5B	+10	+15	
Diperoxy azelaic acid	UN3116	≤27			≥73		OP7B	+35	+40	
Diperoxy dodecane diacid	UN3116	>13 - 42			≥58		OP7B	+40	+45	
Diperoxy dodecane diacid	Exempt	≤13			≥87		Exempt			
Di-(2-phenoxyethyl)peroxydicarbonate	UN3102	>85 - 100					OP5B			
Di-(2-phenoxyethyl)peroxydicarbonate	UN3106	≤85				≥15	OP7B			
Dipropionyl peroxide	UN3117	≤27		≥73			OP8A	+15	+20	
Di-n-propyl peroxydicarbonate	UN3113	≤100					OP4A	-25	-15	
Distearyl peroxydicarbonate	UN3106	≤87			≥13		OP7B			
Disuccinic acid peroxide	UN3102	>72,≤100					OP4B			18
Disuccinic acid peroxide	UN3102	>72 - 100					OP4B			18
Disuccinic acid peroxide	UN3116	≤72				≥28	OP7B	+10	+15	18
Di-(3 5,5-trimethyl-1,2-dioxolanyl-3) peroxide *as a paste*	UN3116	≤52					OP7B	+30	+35	21

ORGANIC PEROXIDES TABLE—Continued

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %) A (4a)	Diluent (Mass %) B (4b)	Diluent (Mass %) I (4c)	Water (Mass %) (5)	Packing Method (6)	Temperature(°C) Control (7a)	Temperature(°C) Emergency (7b)	Notes (8)
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3115	>38 - 82	≥18				OP7A	0	+10	
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	≥62				OP8A	+20	+25	
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	≥62					+10	+15	10
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	≥62					-10	0	14
Di-(3,5,5-trimethylhexanoyl)peroxide, as a stable dispersion in water	UN3117	≤52					OP8A	+10	+15	
Ethyl 3,3-di-(tert-amylperoxy)butyrate	UN3105	≤67	≥33				OP7A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3103	>77 - 100					OP5A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3105	≤77	≥23				OP7A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3106	≤52			≥48		OP7B			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3102	>52 - 100					OP4B			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3105	≤52	≥48				OP7A			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3106	≤52			≥48		OP7B			
Isopropylcumyl hydroperoxide	UN3109	≤72	≥28				OP8A			14
Isopropylcumyl hydroperoxide	UN3109	≤72	≥28				OP8A			15
p-Menthyl hydroperoxide	UN3105	56 - 100					OP7A			13
p-Menthyl hydroperoxide	UN3109	≤56	≥45				OP8A			14
p-Menthyl hydroperoxide	UN3109	≤56	>44				OP8A			14
Methylcyclohexanone peroxide(s)	UN3115	≤67	≥33				OP7A	+35	+40	
Methyl ethyl ketone peroxide(s)	UN3101	≤52	≥48				OP5A			5, 13
Methyl ethyl ketone peroxide(s)	UN3105	≤45	≥55				OP7A			5
Methyl ethyl ketone peroxide(s)	UN3107	≤40	≥60				OP8A			5
Methyl isobutyl ketone peroxide(s)	UN3105	≤62	≥19				OP7A			5, 23
Organic peroxide, liquid, sample, temperature controlled	UN3113						OP2A			12
Organic peroxide, solid, sample	UN3104						OP2B			12
Organic peroxide, solid, sample, temperature controlled	UN3114						OP2B			12
Peracetic acid with 20% hydrogen peroxide	Exempt	≤5				≥60	Exempt			22
Peracetic acid with 7% hydrogen peroxide	UN3107	≤36				≥15	OP8A			
Peroxyacetic acid, type D, stabilized	UN3105	≤43					OP7A			13, 20
Peroxyacetic acid, type E, stabilized	UN3107	≤43					OP8A			13, 20
Peroxyacetic acid, type F, stabilized	UN3109	≤43					OP8A			13, 20
Pinanyl hydroperoxide	UN3105	56 - 100					OP7A			19
Pinanyl hydroperoxide	UN3109	≤55	≥45				OP8A			14
Pinanyl hydroperoxide	UN3109	≤56	>44				OP8A			14
Tetrahydronaphthyl hydroperoxide	UN3106	≤100					OP7B			
1,1,3,3-Tetramethylbutyl hydroperoxide	UN3105	≤100					OP7A			
1,1,3,3-Tetramethylbutylperoxy-2-ethylhexanoate	UN3115	≤100					OP7A	+20	+25	
2,4,4-Trimethylpentyl-2-peroxyneodecanoate	UN3115	≤72		≥28			OP7A	-5	+5	
2,4,4-Trimethylpentyl-2-peroxy phenoxyacetate	UN3115	≤37		≥63			OP7A	-10	0	

1. For domestic shipments, OP8A is authorized.
2. Available oxygen must be ≤4.7 percent.
3. For concentrations ≤60 percent OP5B is allowed. For concentrations 60 percent but ≤85 percent, OP4B is allowed. For concentrations >85 percent, maximum package size is OP2B.
4. The diluent may be replaced by di-tert-butyl peroxide.
5. Available oxygen must be percent.
6. For domestic shipments, OP5A is authorized.
7. [Reserved]
8. Only non-metallic packagings are authorized.
9. For domestic shipments, this material may be transported in bulk packagings under the provisions of § 173.225(e)(3)(c)(ii).
10. This material may be transported in intermediate bulk containers under the provisions of § 173.225(e).
11. Up to 2000 kg per container authorized.
12. Samples may only be offered for transportation when all available data indicate that the sample is no more dangerous than an Organic Peroxide type C, and the sample is packaged using packaging method OP2A for liquids or OP2B for solids, as appropriate, in quantities less than 10 kg per shipment, employing any necessary temperature controls.
13. "Corrosive" subsidiary risk label is required.
14. This material may be transported in bulk packagings under the provisions of § 173.225(e).
15. No "Corrosive" subsidiary risk label is required for concentrations below 80%.
16. With <5% di-tert-butyl peroxide.
17. With <= 8% 1-isopropylhydroperoxy-4-isopropylhydroxybenzene.
18. Addition of water to this organic peroxide will decrease its thermal stability.
19. [Reserved]
20. Mixtures with hydrogen peroxide, water and acid(s).
21. With diluent type A, with or without water.
22. With <36 percent, by mass, ethylbenzene.
23. With >19 percent, by mass, methyl isobutyl ketone.

(c) * * *

(5) *Mixtures.* Mixtures of organic peroxides individually identified in the Organic Peroxides Table in paragraph (b) of this section may be classified as the same type of organic peroxide as that of the most dangerous component and be transported under the conditions for transportation given for this type. If the stable components form a thermally less stable mixture, the SADT of the mixture must be determined and the new control and emergency temperature derived under the provisions of § 173.21(f).

* * * * *

§ 173.225 [Amended]

73a. In § 173.226(c)(1), the wording "4A1 or 4A2" and "4B1 or 4B2" would be removed and the wording "4A" or "4B", respectively, would be added in its place.

§ 173.304 [Amended]

74. In § 173.304, in the paragraph (a)(2) table, for the entry "Carbon dioxide", in Column 3, "DOT–3T1800" would be removed and replaced with "DOT–3T1800".

75. In § 173.306, paragraph (a)(3)(v) would be revised to read as follows:

§ 173.306 Limited quantities of compressed gases.

(a) * * *

(3) * * *

(v) Each container must be subjected to a test performed in a hot water bath; the temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 55 °C (131 °F) (50

°C) (122 °F) if the liquid phase does not exceed 95% of the capacity of the container at 50 °C (122 °F) If the contents are sensitive to heat or if the containers are made of plastics material which softens at this test temperature, the temperature of the bath must be set at between 20 °C (68 °F) and 30 °C (86 °F) but, in addition, one container in 2000 must be tested at the higher temperature No leakage or permanent deformation of a container may occur, except that a plastic container may be deformed through softening provided that it does not leak.

* * * * *

Appendix A to Part 173 [Removed]

76. Appendix A to part 173 would be removed and reserved.

77. In Appendix E to part 173, paragraph 2 b (4) would be redesignated 2 b (5) and a new 2.b (4) would be added to read as follows

Appendix E to Part 173—Guidelines for the Classification and Packing Group Assignment of Class 4 Materials

* * * * *

2. * * *

b * * *

(4) A self-reactive material shall be regarded as possessing explosive properties when, in laboratory testing, the formulation is liable to detonate, to deflagrate rapidly or show a violent effect when heated under confinement.

* * * * *

Appendix E to Part 173 [Amended]

78. In addition, in Appendix E to part 173, in paragraph 2.c.(3)(B), the wording "Powders of metals or metal alloys are classified when they can be ignited" would be revised to read "Powders of metals or metal alloys are classified in Division 4.1 when they can be ignited".

Appendix F to Part 173 [Amended]

79 In Appendix F to part 173, in paragraph 1., the phrase "Division 4.1" would be removed and replaced with "Division 5.1".

80. Appendix H would be added to part 173 to read as follows·

Appendix H to Part 173—Method of Testing for Sustained Combustibility

1 *Method* The method describes a procedure for determining if the material when heated under the test conditions and exposed to an external source of flame applied in a standard manner sustains combustion

2 *Principle of the method* A metal block with a concave depression (test portion well) is heated to a specified temperature. A specified volume of the material under test is transferred to the well and its ability to sustain combustion is noted after application and subsequent removal of a standard flame under specified conditions

3 *Apparatus* A combustibility tester consisting of a block of aluminum alloy or other corrosion-resistant metal of high thermal conductivity is used The block has a concave well and a pocket drilled to take a thermometer A small gas jet assembly on a swivel is attached to the block The handle and gas inlet for the gas jet may be fitted at any convenient angle to the gas jet A suitable apparatus is shown in Figure 5 1 of the UN Recommendations and the essential dimensions are given in Figures 5 1 and 5 2 of the UN Recommendations The following equipment is needed

(a) *Gauge*, for checking that the height of the center of the gas jet above the top of the test portion well is 2 2 mm (see Figure 5 1),

(b) *Thermometer*, mercury in glass, for horizontal operation, with a sensitivity not less than 1 mm/°C, or other measuring device of equivalent sensitivity permitting reading at 0 5 °C intervals When in position in the block, the thermometer bulb must be surrounded with thermally conducting thermoplastic compound;

(c) *Hotplate*, fitted with a temperature-control device (Other types of apparatus with suitable temperature-control facilities may be employed to heat the metal block),

(d) *Stopwatch*, or other suitable timing device,

(e) *Syringe*, capable of delivering 2 ml to an accuracy of ± 0 1 ml, and

(f) *Fuel source*, butane test fuel

4 *Sampling*. The sample must be representative of the material to be tested and must be supplied and kept in a tightly closed container prior to test. Because of the possibility of loss of volatile constituents, the sample must receive only the minimum treatment necessary to ensure its homogeneity After removing each test portion, the sample container must be immediately closed tightly to ensure that no volatile components escape from the container; if this closure is incomplete, an entirely new sample must be taken

5. *Procedure* Carry out the determination in triplicate

WARNING—Do not carry out the test in a small confined area (for example a glove box), because of the hazard of explosions

(a) It is essential that the apparatus be set up in a completely draft-free area (see warning) and in the absence of strong light to facilitate observation of flash, flame, etc

(b) Place the metal block on the hotplate or heat the metal block by other suitable means so that its temperature, as indicated by the thermometer placed in the metal block, is maintained at the specified temperature within a tolerance of ± 1 °C The test temperature is 60 5 °C or 75 °C, (see (h)). Correct this temperature for the difference in barometric pressure from the standard atmospheric pressure (101 3 kPa) by raising the test temperature for a higher pressure or lowering the test temperature for a lower pressure by 1 0 °C for each 4 kPa difference Ensure that the top of the metal block is exactly horizontal. Use the gauge to check that the jet is 2 2 mm above the top of the well when in the test position

(c) Light the butane test fuel with the jet away from the test position (i e. in the "off" position, away from the well) Adjust the size of the flame so that it is 8 mm to 9 mm high and approximately 5 mm wide

(d) Using the syringe, take from the sample container at least 2 ml of the sample and rapidly transfer a test portion of 2 ml ± 0 1 ml to the well of the combustibility tester and immediately start the timing device

(e) After a heating time of 60 seconds (s), by which time the test portion is deemed to have reached its equilibrium temperature, and if the test fluid has not ignited, swing the test flame into the test position over the edge of the pool of liquid. Maintain it in this position for 15 s and then return it to the "off" position while observing the behavior of the test portion The test flame must remain lighted throughout the test

(f) For each test observe and record

(i) whether there is ignition and sustained combustion or flashing, or neither, of the test portion before the test flame is moved into the test position,

(ii) whether the test portion ignites while the test flame is in the test position, and, if so, how long combustion is sustained after the test flame is returned to the "off" position.

(g) If sustained combustion interpreted in accordance with paragraph 6 of this appendix is not found, repeat the complete procedure with new test portions, but with a heating time of 30 s

(h) If sustained combustion interpreted in accordance with paragraph 6. of this appendix is not found at a test temperature of 60 5 °C (141 °F), repeat the complete procedure with new test portions, but at a test temperature of 75 °C (167 °F)

6 *Interpretation of observations.*

The material must be assessed either as not sustaining combustion or as sustaining combustion Sustained combustion must be reported at either of the heating times if one of the following occurs with either of the test portions

(a) When the test flame is in the "off" position, the test portion ignites and sustains combustion,

(b) The test portion ignites while the test flame is in the test position for 15 s, and sustains combustion for more than 15 s after the test flame has been returned to the "off" position

Note· Intermittent flashing may not be interpreted as sustained combustion Normally, at the end of 15 s, the combustion has either clearly ceased or continues In cases of doubt, the material must be deemed to sustain combustion

§§ 173.201, 173.202, 173.203, 173.211, 173 212, 173.213, 173.226 [Amended]

81 In addition to the amendments set forth above, part 173 would be amended by removing the wording "4A1 or 4A2" and inserting in its place "4A" each place it appears, removing the wording "4B1 or 4B2" and inserting in its place "4B" each place it appears; and by removing the wording "6HH" and inserting in its place "6HH1" each place it appears in the following sections

a. Section 173.201 (b) and (c),

b Section 173.202 (b) and (c),

c. Section 173.203 (b) and (c);
d. Section 173.211 (b) and (c);
e. Section 173.212 (b) and (c); and
f. Section 173.213 (b) and (c).

PART 175—CARRIAGE BY AIRCRAFT

82. The authority citation for part 175 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1808; 49 CFR part 1.

83. In § 175.10, paragraphs (a)(4) introductory text and (a)(13) would be revised, paragraph (a)(12) would be removed and reserved, and a new paragraph (a)(26) would be added to read as follows:

§ 175.10 Exceptions.

(a) * * *

(4) Non-radioactive medicinal and toilet articles carried by a crew member or passenger in checked or carry-on baggage, and non-flammable and non-toxic aerosols, with no subsidiary risk, for sporting or home use, when carried in checked baggage only, when:

* * * * *

(13) Carbon dioxide, solid (dry ice) when:

(i) In quantities not exceeding 2.3 kg (5.07 pounds) per package packed as prescribed by § 173.217 of this subchapter and used as a refrigerant for the contents of the package. The package must be marked with the name of the contents being cooled, the net weight of the dry ice or an indication that the net weight is 2.3 kg (5.07 pounds) or less, and also marked "Carbon Dioxide, Solid" or "Dry Ice";

(ii) Intended for use in food and beverage service aboard aircraft; or

(iii) In quantities not exceeding 2 kg (4.4 pounds) per passenger when used to pack perishables in carry-on baggage provided the package permits the release of carbon dioxide gas.

* * * * *

(26) A small medical or clinical mercury thermometer for personal use, when carried in protective cases by passengers or crew members.

§ 175.10 [Amended]

84. In addition, in § 175.10, in paragraph (a)(12) introductory text, the wording "environmental restoration or protection," would be added immediately following "weather control," and immediately preceding "forest preservation".

85. In § 175.33, a new sentence would be added in paragraph (a)(1) introductory text after the first sentence, and a new paragraph (a)(9) would be added to read as follows:

§ 175.33 Notification of pilot-in-command.

(a) * * *

(1) * * * In the case of Class 1 material, the compatibility group letter also must be shown.

* * * * *

(9) The air waybill number (when issued).

* * * * *

§ 175.33 [Amended]

86. In addition, in § 175.33, in paragraph (a)(6), the word "and" at the end of the sentence would be removed; in paragraph (a)(7), the period at the end of the sentence would be removed and replaced with a semicolon; and in paragraph (a)(8), the period at the end of the sentence would be removed and replaced with "; and".

PART 176—CARRIAGE BY VESSEL

87. The authority citation for part 176 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1808; 49 CFR part 1.

88. A new paragraph (c) would be added in § 176.27 to read as follows:

§ 176.27 Certificate.

* * * * *

(c) (1) A person responsible for packing or loading a freight container or transport vehicle containing hazardous materials for transportation by a unmanned vessel in ocean or coastwise service, must provide the vessel operator with a signed container packing certificate stating, at a minimum, that—

(i) The freight container or transport unit is serviceable for the materials loaded therein, contains no incompatible goods, and is properly marked, labeled or placarded, as applicable; and

(ii) When the freight container or transport unit contains packages, those packages have been inspected prior to loading, are properly marked, labeled or placarded, as applicable, are not damaged, and are properly secured.

(2) The certificate may be either on a separate document or be provided on the certificate required in § 172.204 of this subchapter.

89. In § 176.76, a new paragraph (i) would be added to read as follows:

§ 176.76 Transport vehicles, freight containers, and portable tanks containing hazardous materials.

* * * * *

(i) A fumigated transport unit may only be transported on board a vessel, subject to the following conditions and limitations:

(1) The fumigated transport unit may be placed on board a vessel only if at least 24 hours have elapsed since the unit was last fumigated;

(2) The fumigated transport unit is accompanied by a document showing the date of fumigation and the type and amount of fumigant used;

(3) Prior to loading, the master is informed of the intended placement of the fumigated transport unit on board the vessel and the information provided on the accompanying document;

(4) Equipment that is capable of detecting the fumigant and instructions for the equipment's use is provided on the vessel;

(5) The fumigated transport unit must be stowed at least five meters from any opening to accommodation spaces;

(6) Fumigated transport units may only be transported on deck on vessels carrying more than 25 passengers; and

(7) Fumigants may not be added to transport units while on board a vessel.

PART 177—CARRIAGE BY PUBLIC HIGHWAY

90. The authority citation for part 177 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805; 49 CFR part 1.

§ 177.841 [Amended]

91. In § 177.841, in paragraph (e)(3), the wording "is separated as required in § 177.848(e)(3) for classes identified with the letter 'O' in the Segregation Table for Hazardous Materials." would be revised to read "is separated in a manner that, in the event of leakage from packages under conditions normally incident to transportation, commingling of hazardous materials with foodstuffs, feed, or any other edible material would not occur."

PART 178—SPECIFICATIONS FOR PACKAGINGS

92. The authority citation for part 178 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1806, 1808; 49 CFR part 1.

93. In § 178.2, paragraph (a) would be revised and paragraph (e) would be added to read as follows:

§ 178.2 Applicability and responsibility.

(a) *Applicability.* (1) The requirements of this part apply to packagings manufactured—

(i) To a DOT specification, regardless of country of manufacture; or

(ii) To a UN standard, for packagings manufactured within the United States. For UN standard packagings manufactured outside the United States, see § 173.24(b)(2) of this subchapter. For UN standard packagings for which standards are not prescribed in this part, see § 178.3(b).

(2) A manufacturer of a packaging subject to the requirements of this part is primarily responsible for compliance with the requirements of this part However, any person who performs a function prescribed in this part shall perform that function in accordance with this part.

* * * * *

(e) *Definitions.* For the purpose of this part—

Manufacturer means the person whose name and address or symbol appears as part of the specification markings required by this part or, for a packaging marked with the symbol of an approval agency, the person on whose behalf the approval agency certifies the packaging.

Specification markings mean the packaging identification markings required by this part including, where applicable, the name and address or symbol of the packaging manufacturer or approval agency.

94. In § 178.3, paragraph (a) introductory text, the first sentence of paragraph (a)(2) and paragraph (b) would be revised, a sentence would be added at the end of paragraph (a)(4) and a new paragraph (a)(5) would be added, to read as follows:

§ 178.3 Marking of packagings.

(a) Each packaging manufactured to a DOT specification or a UN standard must be marked with specification markings conforming to the applicable specification, and with the following:

(1) * * *

(2) Unless otherwise specified in this part, with the name and address or symbol of the packaging manufacturer or, where specifically authorized, the symbol of the approval agency certifying compliance with a UN standard. * * *

* * * * *

(4) * * * For packagings having a capacity of 5 L (1 gallon) or 5 kg (11 pounds) or less, letters and numerals must be of an appropriate size.

(5) For packages with a gross mass of more than 30 kg (66 pounds), the markings or a duplicate thereof must appear on the top or on a side of the packaging.

(b) A UN standard packaging for which the UN standard is set forth in this part may be marked with the United Nations symbol and other specification markings only if it fully conforms to the requirements of this part. A UN standard packaging for which the UN standard is not set forth in this part may be marked with the United Nations symbol and other specification markings for that standard as provided in the ICAO Technical Instructions or Annex 1 of the IMDG Code subject to the following conditions:

(1) The U.S. manufacturer must establish that the packaging conforms to the applicable provisions of the ICAO Technical Instructions or Annex 1 of the IMDG Code, respectively.

(2) If an indication of the name of the manufacturer or other identification of the packaging as specified by the competent authority is required, the name and address or symbol of the manufacturer must be entered Symbols, if used, must be registered with the Associate Administrator for Hazardous Materials Safety.

(3) The letters "USA" shall be used to indicate the State authorizing the allocation of the specification marks if manufactured in the United States

* * * * *

§ 178.502 [Amended]

95 In § 178.502, the following changes would be made:

a. In the paragraph (a) introductory text, the wording "types" would be revised to read "kinds".

b. In the paragraph (a)(1) introductory text and the first sentence in paragraph (a)(3), the wording "type" would be revised to read "kind".

96 In § 178.503, paragraph (d) would be redesignated paragraph (e); new paragraphs (a)(11) and (d) would be added; paragraph (a) introductory text, paragraph (a)(9), and paragraph (a)(10) would be revised, and newly designated paragraph (e)(3) would be amended by revising the illustration, to read as follows:

§ 178.503 Marking of packagings.

(a) The manufacturer must mark every packaging that is required to meet a UN standard with the marks specified in this section The markings must be legible and placed in a location and of such a size relative to the packaging as to be readily visible, as specified in § 178.3(a). For packages with a gross mass of more than 30 kg (66 pounds), the markings or a duplicate thereof must appear on the top or on a side of the packaging. Except as otherwise provided in this section, every reusable packaging liable to undergo a reconditioning process which might obliterate the packaging marks must bear the marks specified in paragraphs (a)(1) through (a)(6) and (a)(9) of this section in a permanent form (e g embossed) able to withstand the reconditioning process. A marking may be applied in a single line or in multiple lines provided the correct sequence is respected. As illustrated by the examples in paragraph (e) of this section, the following information must be presented in the correct sequence Slash marks should be used to separate this information. A packaging conforming to a UN standard must be marked as follows:

* * * * *

(9) For metal or plastic drums or jerricans intended for reuse or reconditioning as single packagings or the outer packagings of a composite packaging, the thickness of the packaging material, expressed in millimeters, as follows:

(i) Metal drums or jerricans must be marked with the nominal thickness of the metal used in the body. The marked nominal thickness must not exceed the minimum thickness of the steel used by more than the thickness tolerance stated in ISO Standard 3574. The unit of measure is not required to be marked. When the nominal thickness of either head of a metal drum is thinner than that of the body, the nominal thickness of the top head, body, and bottom head must be marked (eg., "1 0–1 2–1 0" or "0 9–1.0–1.0").

(ii) Plastic drums or jerricans must be marked with the minimum thickness (in mm, rounded to the nearest 0.1 mm) of the packaging material Minimum thicknesses of plastic must be as determined in accordance with § 173 28(b)(4). The unit of measure is not required to be marked.

(10) In addition to the markings prescribed in paragraphs (a)(1) through (a)(9) of this section, every new metal or plastic drum having a capacity greater than 100 L and intended for reuse or reconditioning as a single packaging or the outer packaging of a composite packaging, must bear the marks described in paragraphs (a)(1) through (a)(6), and (a)(9) of this section, in a permanent form, on the bottom. For these packagings, the markings on the top head or side of the packaging need not be applied in a permanent form and need not include the thickness mark described in paragraph (a)(9) of this section. This marking describes a drum's characteristics at the time it was manufactured and must be consistent with the original manufacturer's UN marking on the top head or side. Subsequent remanufacture may render some of the information provided in this bottom mark to be invalid (e.g., a 1A1 drum may be remanufactured into a 1A2 drum). This marking should not be used to evaluate compliance with § 173.24 of this subchapter.

(11) Rated capacity of the packaging expressed in liters may be marked.

* * * * *

(d) When, after reconditioning, the markings required by paragraph (a)(1)

through (a)(6) of this section no longer appear on the top head or the side of the metal drum, the reconditioner must apply them in a durable form followed by the markings in paragraph (c) of this section. These markings may identify a different performance capability than that for which the original design type had been tested and marked, but may not identify a greater performance capability. The markings applied in accordance with this paragraph may be different from those which are permanently marked on the bottom of a drum in accordance with paragraph (a)(10) of this section.

(e) * * *

(3) * * *

BILLING CODE 4910-60-P

IA1/Y1.4/150/92
USA/RB/10-93 RL

BILLING CODE 4910-60-C

* * * * *

§ 178.503 [Amended]

97. In addition, in § 178.503, the reference "§ 178.503(a)(1) through (a)(10)" following the illustration would be revised to read "§ 178.503(a)(1) through (a)(9)".

§ 178.508 [Amended]

98. In § 178.508, in paragraph (a)(2), the wording "plywood or plastic material" would be revised to read "plywood, plastics, or other suitable material".

99. In § 178.512, paragraphs (a)(3) and (a)(4) would be removed and paragraphs (a)(1), (a)(2), and (b)(2) would be revised to read as follows:

§ 178.512 Standards for steel or aluminum boxes.

(a) * * *

(1) 1A for a steel box; and

(2) 1B for an aluminum box.

(b) * * *

(2) Boxes must be lined with fiberboard or felt packing pieces or must have an inner liner or coating of suitable material in accordance with subpart C of part 173 of this subchapter. If a double seamed metal liner is used, steps must be taken to prevent the ingress of materials, particularly explosives, into the recesses of the seams.

* * * * *

100. In § 178.513, paragraphs (b)(2) and (b)(3) would be redesignated (b)(3) and (b)(4), respectively, and a new paragraph (b)(2) would be added to read as follows:

§ 178.513 Standards for boxes of natural wood.

* * * * *

(b) * * *

(2) Fastenings must be resistant to vibration experienced under normal conditions of transportation. End grain nailing must be avoided whenever practicable. Joints which are likely to be highly stressed must be made using clenched or annular ring nails or equivalent fastenings.

* * * * *

§ 178.516 [Amended]

101. In § 178.516, the following changes would be made:

a. In paragraph (b)(1), at the end of the second sentence, the wording "ISO International Standard 535–1976(E)" would be revised to read "ISO International Standard 535–1991(E)".

b. In paragraph (b)(2), at the end of the first sentence, the wording "of wood," would be revised to read "of wood or other suitable material," and in the second sentence the wording "or other suitable material" would be added immediately following the word "battens".

c. Paragraphs (b)(4) and (b)(5) would be redesignated as paragraphs (b)(5) and (b)(6) and paragraph (b)(3)(iii) would be redesignated as paragraph (b)(4).

§ 178.521 [Amended]

102. In § 178.521, in paragraph (b)(2), in the penultimate sentence, the wording "water-resistant ply or barrier must also be placed" would be revised to read "waterproof ply or barrier, such as double-tarred kraft paper, plastics-coated kraft paper, plastics film bonded to the inner surface of the bag, or one or more inner plastics liners, must also be placed".

103. In § 178.522, paragraphs (a)(10) and (b)(3)(viii) would be revised and paragraphs (a)(11) and (b)(3)(ix) would be added to read as follows:

§ 178.522 Standards for composite packagings with inner plastic receptacles.

(a) * * *

(10) 6HH1: for a plastic receptacle within a protective plastic drum; and

(11) 6HH2: for a plastic receptacle within a protective plastic box.

(b) * * *

(3) * * *

(viii) 6HH1: Protective packaging must conform to the requirements for plastic drums, in § 178.509(b).

(ix) 6HH2: Protective packaging must conform to the requirements for plastic boxes, in § 178.517(b).

* * * * *

§ 178.522 [Amended]

104. In addition, in § 178.522, the following changes would be made:

a. In paragraph (a)(9), the word "and" at the end of the paragraph would be removed.

b. In paragraph (b)(4), the wording "6HH" would be revised to read "6HH1", and the wording ", 6HH2" would be added immediately following "6HG2".

c. In paragraph (b)(5), the wording "6HH" would be revised to read "6HH1", and the wording ", 6HH2" would be added immediately following "6HG2".

105. In § 178.601, paragraph (k) would be redesignated as paragraph (l) and revised, a new paragraph (k) would be added, and paragraphs (b), (g)(2)(i), and (g)(2)(vi) would be revised to read as follows:

§ 178.601 General requirements.

* * * * *

(h) *Responsibility.* It is the responsibility of the packaging manufacturer to assure that each package is capable of passing the prescribed tests To the extent that a package assembly function, including final closure, is performed by the person who offers a hazardous material for transportation, that person is responsible for performing the function in accordance with §§ 173 22 and 178 2 of this subchapter

* * * * *

(g) * * *

(2) * * *

(i) The outer packaging must have been successfully tested in accordance with § 178.603 with fragile (e g glass) inner packagings containing liquids at the Packing Group I drop height,

* * * * *

(vi) When the outer packaging is intended to contain inner packagings for liquids and is not leakproof, or is intended to contain inner packagings for solids and is not siftproof, a means of containing any liquid or solid contents in the event of leakage must be provided in the form of a leakproof liner, plastic bag, or other equally efficient means of containment. For packagings containing liquids, the absorbent material required in paragraph (g)(2)(v) of this section must be placed inside the means of containing liquid contents, and

* * * * *

(k) *Number of test samples* Provided the validity of the test results is not affected and with the approval of the Associate Administrator for Hazardous Materials Safety, several tests may be performed on one sample

(l) *Record retention.* Following each design qualification test and each periodic retest on a packaging, a test report must be prepared The test report must be maintained at each location where the packaging is manufactured, at each location where the design qualification tests are conducted for as long as the packaging is produced and for at least two years thereafter, and at each location where the periodic retests are conducted until such tests are successfully performed again and a new test report produced. In addition, a copy of the test report must be maintained by a person certifying compliance with this part. The test report must be made available to users of a packaging or a representative of the Department upon request. The test report must contain the following information:

(1) Name and address of test facility,

(2) Name and address of applicant (where appropriate);

(3) A unique test report identification;

(4) Date of the test report,

(5) Manufacturer of the packaging,

(6) Description of the packaging design type (e g. dimensions, materials, closures, thickness, etc.), including methods of manufacture (e g blow molding) and which may include drawing(s) and/or photograph(s),

(7) Maximum capacity,

(8) Characteristics of test contents, e g. viscosity and relative density for liquids and particle size for solids,

(9) Test descriptions and results, and

(10) Signed with the name and address of signatory.

§ 178.601 [Amended]

106 In addition, in § 178.601, the following changes would be made:

a. In paragraph (g)(2) introductory text, the wording "Inner packagings" would be revised to read "Articles or inner packagings".

b In paragraph (g)(5)(i), the reference "§ 178 602" would be revised to read "§ 178 603"

c In paragraph (g)(5)(ii), the reference "§ 178 603" would be revised to read "§ 178 604"

§ 178.602 [Amended]

107 In § 178 602, in the second sentence of paragraph (c), the reference "§ 178 603(d)(2)" would be revised to read "§ 178.603(e)".

108. In § 178 603, in paragraph (a) introductory text, a sentence would be added following the second sentence, the first sentence in paragraph (c) would be revised, and paragraph (f)(1) would be revised to read as follows.

§ 178.603 Drop test.

(a) * * * Where more than one orientation is possible for a given drop test, the orientation most likely to result in failure of the packaging must be used

* * *

* * * * *

(c) * * * Testing of plastic drums, plastic jerricans, plastic boxes other than expanded polystyrene boxes, composite packagings (plastic material), combination packagings with plastic inner packagings, textile bags with inner plastic liners, woven plastic bags, and plastic film bags must be carried out when the temperature of the test sample and its contents has been reduced to −18 °C (0 °F) or lower. * * *

* * * * *

(f) * * *

(1) For packagings containing liquid, each packaging does not leak when equilibrium has been reached between the internal and external pressures, except for inner packagings of combination packagings when it is not necessary that the pressures be equalized;

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§ 178.604 [Amended]

109. In § 178.604, in paragraph (d), in the second sentence, the wording "for a period of time sufficient to pressurize the interior of the packaging to the specified air pressure and to determine if there is leakage of air from the packaging" would be revised to read ", for other than production testing, for a minimum time of five minutes"

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Alan I. Roberts,

Associate Administrator for Hazardous Materials Safety

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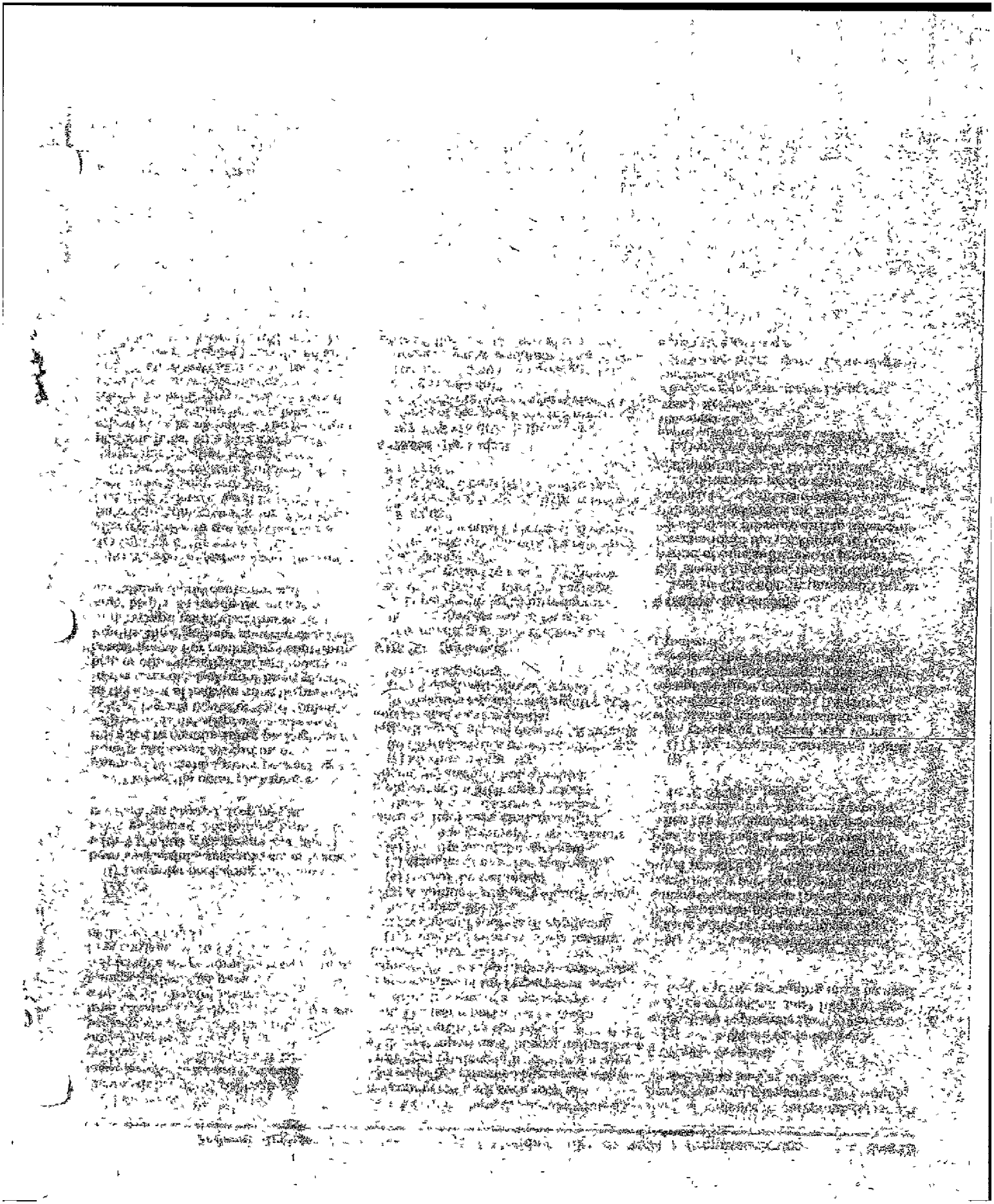
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