

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

Subpart A—General

Sec.

- 172.1 Purpose and scope.
172.3 Applicability.

Subpart B—Table of Hazardous Materials and Special Provisions

- 172.101 Purpose and use of hazardous materials table.
172.102 Special provisions.

Subpart C—Shipping Papers

- 172.200 Applicability.
172.201 Preparation and retention of shipping papers.
172.202 Description of hazardous material on shipping papers.
172.203 Additional description requirements.
172.204 Shipper's certification.
172.205 Hazardous waste manifest.

Subpart D—Marking

- 172.300 Applicability.
172.301 General marking requirements for non-bulk packagings.
172.302 General marking requirements for bulk packagings.
172.303 Prohibited marking.
172.304 Marking requirements.
172.306 [Reserved]
172.308 Authorized abbreviations.
172.310 Class 7 (radioactive) materials.
172.312 Liquid hazardous materials in non-bulk packagings.
172.313 Poisonous hazardous materials.
172.315 Packages containing limited quantities.
172.316 Packagings containing materials classed as ORM-D.
172.320 Explosive hazardous materials.
172.321 Air eligibility mark.
172.322 Marine pollutants.
172.323 Infectious substances.
172.324 Hazardous substances in non-bulk packagings.
172.325 Elevated temperature materials.
172.326 Portable tanks.
172.328 Cargo tanks.
172.330 Tank cars and multi-unit tank car tanks.
172.331 Bulk packagings other than portable tanks, cargo tanks, tank cars and multi-unit tank car tanks.
172.332 Identification number markings.

- 172.334 Identification numbers; prohibited display.
172.336 Identification numbers; special provisions.
172.338 Replacement of identification numbers.

Subpart E—Labeling

- 172.400 General labeling requirements.
172.400a Exceptions from labeling.
172.401 Prohibited labeling.
172.402 Additional labeling requirements.
172.403 Class 7 (radioactive) material.
172.404 Labels for mixed and consolidated packaging.
172.405 Authorized label modifications.
172.406 Placement of labels.
172.407 Label specifications.
172.411 EXPLOSIVE 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6 labels, and EXPLOSIVE Subsidiary label.
172.415 NON-FLAMMABLE GAS label.
172.416 POISON GAS label.
172.417 FLAMMABLE GAS label.
172.419 FLAMMABLE LIQUID label.
172.420 FLAMMABLE SOLID label.
172.422 SPONTANEOUSLY COMBUSTIBLE label.
172.423 DANGEROUS WHEN WET label.
172.426 OXIDIZER label.
172.427 ORGANIC PEROXIDE label.
172.429 POISON INHALATION HAZARD label.
172.430 POISON label.
172.431 [Reserved]
172.432 INFECTIOUS SUBSTANCE label.
172.436 RADIOACTIVE WHITE-I label.
172.438 RADIOACTIVE YELLOW-II label.
172.440 RADIOACTIVE YELLOW-III label.
172.442 CORROSIVE label.
172.444 [Reserved]
172.446 CLASS 9 label.
172.448 CARGO AIRCRAFT ONLY label.
172.450 EMPTY label.

Subpart F—Placarding

- 172.500 Applicability of placarding requirements.
172.502 Prohibited and permissive placarding.
172.503 Identification number display on placards.
172.504 General placarding requirements.
172.505 Placarding for subsidiary hazards.
172.506 Providing and affixing placards: Highway.
172.507 Special placarding provisions: Highway.
172.508 Placarding and affixing placarding: Rail.
172.510 Special placarding provisions: Rail.
172.512 Freight containers and aircraft unit load devices.
172.514 Bulk packagings.
172.516 Visibility and display of placards.

- 172.519 General specifications for placards.
- 172.521 DANGEROUS placard.
- 172.522 EXPLOSIVES 1.1, EXPLOSIVES 1.2 and EXPLOSIVES 1.3 placards.
- 172.523 EXPLOSIVES 1.4 placard.
- 172.524 EXPLOSIVES 1.5 placard.
- 172.525 EXPLOSIVES 1.6 placard.
- 172.526 [Reserved]
- 172.527 Background requirements for certain placards.
- 172.528 NON-FLAMMABLE GAS placard.
- 172.530 OXYGEN placard.
- 172.532 FLAMMABLE GAS placard.
- 172.536 [Reserved]
- 172.540 POISON GAS placard.
- 172.542 FLAMMABLE placard.
- 172.544 COMBUSTIBLE placard.
- 172.546 FLAMMABLE SOLID placard.
- 172.547 SPONTANEOUSLY COMBUSTIBLE placard.
- 172.548 DANGEROUS WHEN WET placard.
- 172.550 OXIDIZER placard.
- 172.552 ORGANIC PEROXIDE placard.
- 172.553 [Reserved]
- 172.554 POISON placard.
- 172.555 POISON INHALATION HAZARD placard.
- 172.556 RADIOACTIVE placard.
- 172.558 CORROSIVE placard.
- 172.560 CLASS 9 placard.

Subpart G—Emergency Response Information

- 172.600 Applicability and general requirements.
- 172.602 Emergency response information.
- 172.604 Emergency response telephone number.
- 172.606 Carrier information contact.

Subpart H—Training

- 172.700 Purpose and scope.
- 172.701 Federal-State relationship.
- 172.702 Applicability and responsibility for training and testing.
- 172.704 Training requirements.

Subpart I—Security Plans

- 172.800 Purpose and applicability.
- 172.802 Components of a security plan.
- 172.804 Relationship to other Federal requirements.

APPENDIX A TO PART 172—OFFICE OF HAZARDOUS MATERIALS TRANSPORTATION COLOR TOLERANCE CHARTS AND TABLES

APPENDIX B TO PART 172—TREFOIL SYMBOL

APPENDIX C TO PART 172—DIMENSIONAL SPECIFICATIONS FOR RECOMMENDED PLACARD HOLDER

AUTHORITY: 49 U.S.C. 5101-5127; 49 CFR 1.53.

SOURCE: Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, unless otherwise noted.

Subpart A—General

§ 172.1 Purpose and scope.

This part lists and classifies those materials which the Department has designated as hazardous materials for purposes of transportation and prescribes the requirements for shipping papers, package marking, labeling, and transport vehicle placarding applicable to the shipment and transportation of those hazardous materials.

[Amdt. 172-29, 41 FR 15997, Apr. 15, 1976, as amended by 66 FR 45379, Aug. 28, 2001]

§ 172.3 Applicability.

(a) This part applies to—

- (1) Each person who offers a hazardous material for transportation, and
- (2) Each carrier by air, highway, rail, or water who transports a hazardous material.

(b) When a person, other than one of those provided for in paragraph (a) of this section, performs a packaging labeling or marking function required by this part, that person shall perform the function in accordance with this part.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-32, 41 FR 38179, Sept. 9, 1976]

Subpart B—Table of Hazardous Materials and Special Provisions

§ 172.101 Purpose and use of hazardous materials table.

(a) The Hazardous Materials Table (Table) in this section designates the materials listed therein as hazardous materials for the purpose of transportation of those materials. For each listed material, the Table identifies the hazard class or specifies that the material is forbidden in transportation, and gives the proper shipping name or directs the user to the preferred proper shipping name. In addition, the Table specifies or references requirements in this subchapter pertaining to labeling, packaging, quantity limits aboard aircraft and stowage of hazardous materials aboard vessels.

(b) *Column 1: Symbols.* Column 1 of the Table contains six symbols (“+”, “A”, “D”, “G”, “I” and “W”) as follows:

(1) The plus (+) sign fixes the proper shipping name, hazard class and packing group for that entry without regard to whether the material meets the definition of that class, packing group or any other hazard class definition. When the plus sign is assigned to a proper shipping name in Column (1) of the § 172.101 Table, it means that the material is known to pose a risk to humans. When a plus sign is assigned to mixtures or solutions containing a material where the hazard to humans is significantly different from that of the pure material or where no hazard to humans is posed, the material may be described using an alternative shipping name that represents the hazards posed by the material. An appropriate alternate proper shipping name and hazard class may be authorized by the Associate Administrator.

(2) The letter “A” denotes a material that is subject to the requirements of this subchapter only when offered or intended for transportation by aircraft, unless the material is a hazardous substance or a hazardous waste. A shipping description entry preceded by an “A” may be used to describe a material for other modes of transportation provided all applicable requirements for the entry are met.

(3) The letter “D” identifies proper shipping names which are appropriate for describing materials for domestic transportation but may be inappropriate for international transportation under the provisions of international regulations (e.g., IMO, ICAO). An alternate proper shipping name may be selected when either domestic or international transportation is involved.

(4) The letter “G” identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description. (See § 172.203(k).)

(5) The letter “I” identifies proper shipping names which are appropriate for describing materials in international transportation. An alternate proper shipping name may be selected when only domestic transportation is involved.

(6) The letter “W” denotes a material that is subject to the requirements of this subchapter only when offered or

intended for transportation by vessel, unless the material is a hazardous substance or a hazardous waste. A shipping description entry preceded by a “W” may be used to describe a material for other modes of transportation provided all applicable requirements for the entry are met.

(c) *Column 2: Hazardous materials descriptions and proper shipping names.* Column 2 lists the hazardous materials descriptions and proper shipping names of materials designated as hazardous materials. Modification of a proper shipping name may otherwise be required or authorized by this section. Proper shipping names are limited to those shown in Roman type (not italics).

(1) Proper shipping names may be used in the singular or plural and in either capital or lower case letters. Words may be alternatively spelled in the same manner as they appear in the ICAO Technical Instructions or the IMDG Code. For example “aluminum” may be spelled “aluminium” and “sulfur” may be spelled “sulphur”. However, the word “flammable” may not be used in place of the word “inflammable”.

(2) Punctuation marks and words in italics are not part of the proper shipping name, but may be used in addition to the proper shipping name. The word “or” in italics indicates that terms in the sequence may be used as the proper shipping name, as appropriate.

(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.”.

(4) Except for hazardous wastes, when qualifying words are used as part of the proper shipping name, their sequence in the package markings and shipping paper description is optional. However, the entry in the Table reflects the preferred sequence.

(5) When one entry references another entry by use of the word “see”, if both names are in Roman type, either name may be used as the proper shipping name (e.g., Ethyl alcohol, *see* Ethanol).

(6) When a proper shipping name includes a concentration range as part of

the shipping description, the actual concentration, if it is within the range stated, may be used in place of the concentration range. For example, an aqueous solution of hydrogen peroxide containing 30 percent peroxide may be described as "Hydrogen peroxide, aqueous solution *with not less than 20 percent but not more than 40 percent hydrogen peroxide*" or "Hydrogen peroxide, aqueous solution *with 30 percent hydrogen peroxide*".

(7) Use of the prefix "mono" is optional in any shipping name, when appropriate. Thus, Iodine monochloride may be used interchangeably with Iodine chloride. In "Glycerol alpha-monochlorohydrin" the term "mono" is considered a prefix to the term "chlorohydrin" and may be deleted.

(8) Use of the word "liquid" or "solid". The word "liquid" or "solid" may be added to a proper shipping name when a hazardous material specifically listed by name may, due to differing physical states, be a liquid or solid. When the packaging specified in Column 8 is inappropriate for the physical state of the material, the table provided in paragraph (i)(4) of this section should be used to determine the appropriate packaging section.

(9) *Hazardous wastes*. If the word "waste" is not included in the hazardous material description in Column 2 of the Table, the proper shipping name for a hazardous waste (as defined in § 171.8 of this subchapter), shall include the word "Waste" preceding the proper shipping name of the material. For example: Waste acetone.

(10) *Mixtures and solutions*. (i) A mixture or solution not identified specifically by name, comprised of a hazardous material identified in the Table by technical name and non-hazardous material, shall be described using the proper shipping name of the hazardous material and the qualifying word "mixture" or "solution", as appropriate, unless—

(A) Except as provided in § 172.101(i)(4) the packaging specified in Column 8 is inappropriate to the physical state of the material;

(B) The shipping description indicates that the proper shipping name applies only to the pure or technically pure hazardous material;

(C) The hazard class, packing group, or subsidiary hazard of the mixture or solution is different from that specified for the entry;

(D) There is a significant change in the measures to be taken in emergencies;

(E) The material is identified by special provision in Column 7 of the § 172.101 Table as a material poisonous by inhalation; however, it no longer meets the definition of poisonous by inhalation or it falls within a different hazard zone than that specified in the special provision; or

(F) The material can be appropriately described by a shipping name that describes its intended application, such as "Coating solution", "Extracts, flavoring" or "Compound, cleaning liquid".

(ii) If one or more of the conditions specified in paragraph (c)(10)(i) of this section is satisfied, then a proper shipping name shall be selected as prescribed in paragraph (c)(12)(ii) of this section.

(iii) A mixture or solution not identified in the Table specifically by name, comprised of two or more hazardous materials in the same hazard class, shall be described using an appropriate shipping description (e.g., "Flammable liquid, n.o.s."). The name that most appropriately describes the material shall be used; e.g., an alcohol not listed by its technical name in the Table shall be described as "Alcohol, n.o.s." rather than "Flammable liquid, n.o.s.". Some mixtures may be more appropriately described according to their application, such as "Coating solution" or "Extracts, flavoring liquid" rather than by an n.o.s. entry. Under the provisions of subparts C and D of this part, the technical names of at least two components most predominately contributing to the hazards of the mixture or solution may be required in association with the proper shipping name.

(11) Except for a material subject to or prohibited by §§ 173.21, 173.54, 173.56(d), 173.56(e), 173.224(c) or 173.225(c) of this subchapter, a material that is considered to be a hazardous waste or a sample of a material for which the hazard class is uncertain and must be determined by testing may be assigned a tentative proper shipping name, hazard

class, identification number and packing group, if applicable, based on the shipper's tentative determination according to:

(i) Defining criteria in this subchapter;

(ii) The hazard precedence prescribed in § 173.2a of this subchapter;

(iii) The shippers knowledge of the material;

(iv) In addition to paragraphs (c)(11)(i) through (iii) of this section, for a sample of a material, other than a waste, the following must be met:

(A) Except when the word "Sample" already appears in the proper shipping name, the word "Sample" must appear as part of the proper shipping name or in association with the basic description on the shipping paper.

(B) When the proper shipping description for a sample is assigned a "G" in Column (1) of the § 172.101 Table, and the primary constituent(s) for which the tentative classification is based are not known, the provisions requiring a technical name for the constituent(s) do not apply; and

(C) A sample must be transported in a combination packaging which conforms to the requirements of this subchapter that are applicable to the tentative packing group assigned, and may not exceed a net mass of 2.5 kg. (5.5 pounds) per package.

NOTE TO PARAGRAPH (C)(11): For the transportation of self-reactive, organic peroxide and explosive samples, see §§ 173.224(c)(3), 173.225(c)(2) and 173.56(d) of this subchapter, respectively.

(12) Except when the proper shipping name in the Table is preceded by a plus (+)—

(i) If it is specifically determined that a material meets the definition of a hazard class, packing group or hazard zone, other than the class, packing group or hazard zone shown in association with the proper shipping name, or does not meet the defining criteria for a subsidiary hazard shown in Column 6 of the Table, the material shall be described by an appropriate proper shipping name listed in association with the correct hazard class, packing group, hazard zone, or subsidiary hazard for the material.

(ii) *Generic or n.o.s. descriptions.* If an appropriate technical name is not shown in the Table, selection of a prop-

er shipping name shall be made from the generic or n.o.s. descriptions corresponding to the specific hazard class, packing group, hazard zone, or subsidiary hazard, if any, for the material. The name that most appropriately describes the material shall be used; e.g., an alcohol not listed by its technical name in the Table shall be described as "Alcohol, n.o.s." rather than "Flammable liquid, n.o.s.". Some mixtures may be more appropriately described according to their application, such as "Coating solution" or "Extracts, flavoring, liquid", rather than by an n.o.s. entry, such as "Flammable liquid, n.o.s." It should be noted, however, that an n.o.s. description as a proper shipping name may not provide sufficient information for shipping papers and package markings. Under the provisions of subparts C and D of this part, the technical name of one or more constituents which makes the product a hazardous material may be required in association with the proper shipping name.

(iii) *Multiple hazard materials.* If a material meets the definition of more than one hazard class, and is not identified in the Table specifically by name (e.g., acetyl chloride), the hazard class of the material shall be determined by using the precedence specified in § 173.2a of this subchapter, and an appropriate shipping description (e.g., "Flammable liquid, corrosive n.o.s.") shall be selected as described in paragraph (c)(12)(ii) of this section.

(iv) If it is specifically determined that a material is not a forbidden material and does not meet the definition of any hazard class, the material is not a hazardous material.

(13) *Self-reactive materials and organic peroxides.* A generic proper shipping name for a self-reactive material or an organic peroxide, 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.

(14) A proper shipping name that describes all isomers of a material may be used to identify any isomer of that material if the isomer meets criteria for the same hazard class or division, subsidiary risk(s) and packing group,

unless the isomer is specifically identified in the Table.

(15) Unless a hydrate is specifically listed in the Table, a proper shipping name for the equivalent anhydrous substance may be used, if the hydrate meets the same hazard class or division, subsidiary risk(s) and packing group.

(16) Unless it is already included in the proper shipping name in the §172.101 Table, the qualifying words "liquid" or "solid" may be added in association with the proper shipping name when a hazardous material specifically listed by name in the §172.101 Table may, due to the differing physical states of the various isomers of the material, be either a liquid or a solid (for example "Dinitrotoluenes, liquid" and "Dinitrotoluenes, solid"). Use of the words "liquid" or "solid" is subject to the limitations specified for the use of the words "mixture" or "solution" in paragraph (c)(10) of this section. The qualifying word "molten" may be added in association with the proper shipping name when a hazardous material, which is a solid in accordance with the definition in §171.8 of this subchapter, is offered for transportation in the molten state (for example, "Alkylphenols, solid, n.o.s., molten").

(d) *Column 3: Hazard class or Division.* Column 3 contains a designation of the hazard class or division corresponding to each proper shipping name, or the word "Forbidden".

(1) A material for which the entry in this column is "Forbidden" may not be offered for transportation or transported. This prohibition does not apply if the material is diluted, stabilized or incorporated in a device and it is classed in accordance with the definitions of hazardous materials contained in part 173 of this subchapter.

(2) When a reevaluation of test data or new data indicates a need to modify the "Forbidden" designation or the hazard class or packing group specified for a material specifically identified in the Table, this data should be submitted to the Associate Administrator.

(3) A basic description of each hazard class and the section reference for class definitions appear in §173.2 of this subchapter.

(4) Each reference to a Class 3 material is modified to read "Combustible liquid" when that material is reclassified in accordance with §173.150 (e) or (f) of this subchapter or has a flash point above 60.5 °C (141 °F) but below 93 °C (200 °F).

(e) *Column 4: Identification number.* Column 4 lists the identification number assigned to each proper shipping name. Those preceded by the letters "UN" are associated with proper shipping names considered appropriate for international transportation as well as domestic transportation. Those preceded by the letters "NA" are associated with proper shipping names not recognized for international transportation, except to and from Canada. Identification numbers in the "NA9000" series are associated with proper shipping names not appropriately covered by international hazardous materials (dangerous goods) transportation standards, or not appropriately addressed by international transportation standards for emergency response information purposes, except for transportation between the United States and Canada.

(f) *Column 5: Packing group.* Column 5 specifies one or more packing groups assigned to a material corresponding to the proper shipping name and hazard class for that material. Class 2, Class 7, Division 6.2 (other than regulated medical wastes), and ORM-D materials, do not have packing groups. Packing Groups I, II and III indicate the degree of danger presented by the material is either great, medium or minor, respectively. If more than one packing group is indicated for an entry, the packing group for the hazardous material is determined using the criteria for assignment of packing groups specified in subpart D of part 173. When a reevaluation of test data or new data indicates a need to modify the specified packing group(s), the data should be submitted to the Associate Administrator. Each reference in this column to a material which is a hazardous waste or a hazardous substance, and whose proper shipping name is preceded in Column 1 of the Table by the letter "A" or "W", is modified to read "III" on those occasions when the material is offered for transportation or transported by a

mode in which its transportation is not otherwise subject to requirements of this subchapter.

(g) *Column 6: Labels.* Column 6 specifies codes which represent the hazard warning labels required for a package filled with a material conforming to the associated hazard class and proper shipping name, unless the package is otherwise excepted from labeling by a provision in subpart E of this part, or part 173 of this subchapter. The first code is indicative of the primary hazard of the material. Additional label codes are indicative of subsidiary hazards. Provisions in § 172.402 may require that a label other than that specified in Column 6 be affixed to the package in addition to that specified in Column 6. No label is required for a material classed as a combustible liquid or for a Class 3 material that is reclassified as a combustible liquid. For “Empty” label requirements, see § 173.428 of this subchapter. The codes contained in Column 6 are defined according to the following table:

| Label code | Label name |
|--|----------------------------|
| 1 | Explosive |
| 1.1 ¹ | Explosive 1.1 ¹ |
| 1.2 ¹ | Explosive 1.2 ¹ |
| 1.3 ¹ | Explosive 1.3 ¹ |
| 1.4 ¹ | Explosive 1.4 ¹ |
| 1.5 ¹ | Explosive 1.5 ¹ |
| 1.6 ¹ | Explosive 1.6 ¹ |
| 2.1 | Flammable Gas |
| 2.2 | Non-Flammable Gas |
| 2.3 | Poison Gas |
| 3 | Flammable Liquid |
| 4.1 | Flammable Solid |
| 4.2 | Spontaneously Combustible |
| 4.3 | Dangerous When Wet |
| 5.1 | Oxidizer |
| 5.2 | Organic Peroxide |
| 6.1 (inhalation hazard, Zone A or B). | Poison Inhalation Hazard |
| 6.1 (other than inhalation hazard, Zone A or B) ² . | Poison |
| 6.2 | Infectious substance |
| 7 | Radioactive |
| 8 | Corrosive |
| 9 | Class 9 |

¹ Refers to the appropriate compatibility group letter.
² The packing group for a material is indicated in column 5 of the table.

(h) *Column 7: Special provisions.* Column 7 specifies codes for special provisions applicable to hazardous materials. When Column 7 refers to a special provision for a hazardous material, the meaning and requirements of that spe-

cial provision are as set forth in § 172.102 of this subpart.

(i) *Column 8: Packaging authorizations.* Columns 8A, 8B and 8C specify the applicable sections for exceptions, non-bulk packaging requirements and bulk packaging requirements, respectively, in part 173 of this subchapter. Columns 8A, 8B and 8C are completed in a manner which indicates that “§173.” precedes the designated numerical entry. For example, the entry “202” in Column 8B associated with the proper shipping name “Gasoline” indicates that for this material conformance to non-bulk packaging requirements prescribed in § 173.202 of this subchapter is required. When packaging requirements are specified, they are in addition to the standard requirements for all packagings prescribed in § 173.24 of this subchapter and any other applicable requirements in subparts A and B of part 173 of this subchapter.

(1) Exceptions. Column 8A contains exceptions from some of the requirements of this subchapter. The referenced exceptions are in addition to those specified in subpart A of part 173 and elsewhere in this subchapter. A “None” in this column means no packaging exceptions are authorized, except as may be provided by special provisions in Column 7.

(2) Non-bulk packaging. Column 8B references the section in part 173 of this subchapter which prescribes packaging requirements for non-bulk packagings. A “None” in this column means non-bulk packagings are not authorized, except as may be provided by special provisions in Column 7. Each reference in this column to a material which is a hazardous waste or a hazardous substance, and whose proper shipping name is preceded in Column 1 of the Table by the letter “A” or “W”, is modified to include “§173.203” or “§173.213”, as appropriate for liquids and solids, respectively, on those occasions when the material is offered for transportation or transported by a mode in which its transportation is not otherwise subject to the requirements of this subchapter.

(3) Bulk packaging. Column 8C specifies the section in part 173 of this subchapter which prescribes packaging requirements for bulk packagings, subject to the limitations, requirements and additional authorizations of Column 7. A "None" in this column means bulk packagings are not authorized, except as may be provided by special provisions in Column 7. Additional authorizations and limitations for use of IM portable tanks are set forth in Column 7. For each reference in this column to a material which is a hazardous waste or a hazardous substance, and whose proper shipping name is preceded in Column 1 of the Table by the letter "A" or "W" and which is offered for transportation or transported by a mode in which its transportation is not otherwise subject to the requirements of this subchapter:

- (i) The column reference is § 173.240 or § 173.241, as appropriate.
- (ii) For a solid material, the exception provided in Special provision B54 is applicable.
- (iii) For a Class 9 material which meets the definition of an elevated temperature material, the column reference is § 173.247.

(4) For a hazardous material which is specifically named in the Table and whose packaging sections specify packagings not applicable to the form of the material (e.g., packaging specified is for solid material and the material is being offered for transportation in a liquid form) the following table should be used to determine the appropriate packaging section:

| Packaging section reference for solid materials | Corresponding packaging section for liquid materials |
|---|--|
| § 173.187 | § 173.181 |
| § 173.211 | § 173.201 |
| § 173.212 | § 173.202 |
| § 173.213 | § 173.203 |
| § 173.240 | § 173.241 |
| § 173.242 | § 173.243 |

(j) *Column 9: Quantity limitations.* Columns 9A and 9B specify the maximum quantities that may be offered for transportation in one package by passenger-carrying aircraft or passenger-carrying rail car (Column 9A) or by cargo aircraft only (Column 9B), subject to the following:

(1) "Forbidden" means the material may not be offered for transportation or transported in the applicable mode of transport.

(2) The quantity limitation is "net" except where otherwise specified, such as for "Consumer commodity" which specifies "30 kg gross."

(3) When articles or devices are specifically listed by name, the net quantity limitation applies to the entire article or device (less packaging and packaging materials) rather than only to its hazardous components.

(4) A package offered or intended for transportation by aircraft and which is filled with a material forbidden on passenger-carrying aircraft but permitted on cargo aircraft only, or which exceeds the maximum net quantity authorized on passenger-carrying aircraft, shall be labelled with the CARGO AIRCRAFT ONLY label specified in § 172.448 of this part.

(5) The total net quantity of hazardous material for an outer non-bulk packaging that contains more than one hazardous material may not exceed the lowest permitted maximum net quantity per package as shown in Column 9A or 9B, as appropriate. If one material is a liquid and one is a solid, the maximum net quantity must be calculated in kilograms. See § 173.24a(c)(1)(iv).

(k) *Column 10: Vessel stowage requirements.* Column 10A [Vessel stowage] specifies the authorized stowage locations on board cargo and passenger vessels. Column 10B [Other provisions] specifies codes for stowage requirements for specific hazardous materials. The meaning of each code in Column 10B is set forth in § 176.84 of this subchapter. Section 176.63 of this subchapter sets forth the physical requirements for each of the authorized locations listed in Column 10A. (For bulk transportation by vessel, see 46 CFR parts 30 to 40, 70, 98, 148, 151, 153 and 154.) The authorized stowage locations specified in Column 10A are defined as follows:

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

(2) Stowage category "B" means—

(i) The 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 3 m of overall vessel length; and

(ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) 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 the 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 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

(5) Stowage category “E” means the 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 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

(6) Stowage category “01” means the material may be stowed “on deck” or “under deck” on a cargo vessel (up to 12 passengers) and on a passenger vessel.

(7) Stowage category “02” means the material may be stowed “on deck” or “under deck” on a cargo vessel (up to 12 passengers) and “on deck” in closed cargo transport units or “under deck” in closed cargo transport units on a passenger vessel.

(8) Stowage category “03” means the material may be stowed “on deck” or “under deck” on a cargo vessel (up to 12 passengers) and “on deck” in closed cargo transport units on a passenger vessel.

(9) Stowage category “04” means the material may be stowed “on deck” or “under deck” on a cargo vessel (up to 12 passengers) but the material is prohibited on a passenger vessel.

(10) Stowage category “05” means the material may be stowed “on deck” in closed cargo transport units or “under deck” on a cargo vessel (up to 12 passengers) and on a passenger vessel.

(11) Stowage category “06” means the material may be stowed “on deck” in closed cargo transport units or “under deck” on a cargo vessel (up to 12 passengers) and “on deck” in closed cargo transport units or “under deck” in closed cargo transport units on a passenger vessel.

(12) Stowage category “07” means the material may be stowed “on deck” in closed cargo transport units or “under deck” on a cargo vessel (up to 12 passengers) and “on deck” only in closed cargo transport units on a passenger vessel.

(13) Stowage category “08” means the material may be stowed “on deck” in closed cargo transport units or “under deck” on a cargo vessel (up to 12 passengers) but the material is prohibited on a passenger vessel.

(14) Stowage category “09” means the material may be stowed “on deck only” in closed cargo transport units or “under deck” in closed cargo transport units on a cargo vessel (up to 12 passengers) and on a passenger vessel.

(15) Stowage category “10” means the material may be stowed “on deck” in closed cargo transport units or “under deck” in closed cargo transport units on a cargo vessel (up to 12 passengers) and “on deck” only in closed cargo transport units on a passenger vessel.

(16) Stowage category “11” means the material may be stowed “on deck” in closed cargo transport units or “under deck” in magazine stowage type “c” on a cargo vessel (up to 12 passengers) and “on deck” only in closed cargo transport units on a passenger vessel.

(17) Stowage category “12” means the material may be stowed “on deck” in closed cargo transport units or “under deck” in magazine stowage type “c” on a cargo vessel (up to 12 passengers) but the material is prohibited on a passenger vessel.

(18) Stowage category “13” means the material may be stowed “on deck” in closed cargo transport units or “under deck” in magazine stowage type “A” on a cargo vessel (up to 12 passengers)

and “on deck” only in closed cargo transport units on a passenger vessel.

(19) Stowage category “14” means the material may be stowed “on deck” in closed cargo transport units on a cargo vessel (up to 12 passengers) but the material is prohibited on a passenger vessel.

(20) Stowage category “15” means the material may be stowed “on deck” in closed cargo transport units or “under deck” in closed cargo transport units on a cargo vessel (up to 12 passengers) but the material is prohibited on a passenger vessel.

(1) *Changes to the Table.* (1) Unless specifically stated otherwise in a rule document published in the FEDERAL REGISTER amending the Table—

(i) Such a change does not apply to the shipment of any package filled prior to the effective date of the amendment; and

(ii) Stocks of preprinted shipping papers and package markings may be continued in use, in the manner previously authorized, until depleted or for a one-year period, subsequent to the effective date of the amendment, whichever is less.

(2) Except as otherwise provided in this section, any alteration of a shipping description or associated entry which is listed in the §172.101 Table must receive prior written approval from the Associate Administrator.

(3) The proper shipping name of a hazardous material changed in the May 6, 1997 final rule, in effect on October 1, 1997, only by the addition or omission of the word “compressed,” “inhibited,” “liquefied” or “solution” may continue to be used to comply with package marking requirements, until January 1, 2003.

§ 172.101 HAZARDOUS MATERIALS TABLE

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym- bols | Hazardous materials descrip- tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--------------|---|----------------------------------|----------------------------------|-----|----------------|--|-----------------------------|--------------|-------|-----------------------------|--------------------------|-----------------------------|---------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | <i>Accellerene, see p-</i> Nitrosodimethylaniline. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Accumulators, electric, see Bat- teries, wet etc.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Accumulators, pressurized, pneumatic or hydraulic (con- taining non-flammable gas) see Articles pressurized, pneumatic or hydraulic (containing non-flammable gas)</i> | | | | | | | | | | | | |
| | Acetal | 3 | UN1088 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | Acetaldehyde | 3 | UN1089 | I | 3 | A3, B16, T11, TP2, TP7 | None | 201 | 243 | Forbidden | 30 L | E | ..... |
| A | Acetaldehyde ammonia | 9 | UN1841 | III | 9 | IB8, IP6 | 155 | 204 | 240 | 200 kg | 200 kg | A | 34 |
| | Acetaldehyde oxime | 3 | UN2332 | III | 3 | B1, IB3, T4, TP1 | 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 | 8, 3 | A3, A6, A7, A10, B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | ..... |
| | Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass. | 8 | UN2790 | II | 8 | A3, A6, A7, A10, B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| | Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass. | 8 | UN2790 | III | 8 | IB3, T4, TP1 | 154 | 203 | 242 | 5 L | 60 L | A | ..... |
| | Acetic anhydride | 8 | UN1715 | II | 8, 3 | A3, A6, A7, A10, B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | 40 |
| | Acetone | 3 | UN1090 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Acetone cyanohydrin, stabilized | 6.1 | UN1541 | I | 6.1 | 2, A3, B9, B14, B32, B76, B77, N34, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 25, 40, 49 |
| | Acetone oils | 3 | UN1091 | II | 3 | IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Acetonitrile | 3 | UN1648 | II | 3 | IB2, T7, TP2 | 150 | 202 | 242 | 5L | 60 L | B | 40 |
| | <i>Acetyl acetone peroxide with more than 9 percent by mass active oxygen.</i> | Forbidden | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|--|-----------|--------|-----|--------|---|------|------|------|-----------|-----------|---|-------------|--|
| Acetyl benzoyl peroxide, solid, or with more than 40 percent in solution. | Forbidden | | | | | | | | | | | | |
| Acetyl bromide | 8 | UN1716 | II | 8 | B2, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | 40 | |
| Acetyl chloride | 3 | UN1717 | II | 3, 8 | A3, A6, A7, IB1, N34, T8, TP2, TP12 | 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 | 8 | B2, IB2, T7, TP2, TP13 | 154 | 202 | 242 | 1 L | 30 L | C | 40 | |
| Acetyl methyl carbinol | 3 | UN2621 | III | 3 | B1, IB3, T2, TP1 | 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 | | 2.1 | | 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 | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | | |
| Acrolein dimer, stabilized | 3 | UN2607 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 | |
| Acrolein, stabilized | 6.1 | UN1092 | I | 6.1, 3 | 1, B9, B14, B30, B42, B72, B77, T22, TP2, TP7, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 | |
| Acrylamide | 6.1 | UN2074 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | 12 | |
| Acrylic acid, stabilized | 8 | UN2218 | II | 8, 3 | B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | C | 25, 40 | |
| Acrylonitrile, stabilized | 3 | UN1093 | I | 3, 6.1 | B9, T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | E | 40 | |
| Actuating cartridge, explosive, see Cartridges, power device. | | | | | | | | | | | | | |
| Adhesives, containing a flammable liquid. | 3 | UN1133 | II | 3 | 149, B52, IB2, T4, TP1, TP8 | 150 | 173 | 242 | 5 L | 60 L | B | | |
| Adiponitrile | 6.1 | UN2205 | III | 6.1 | IB3, T3, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | | |
| Aerosols, corrosive, Packing Group II or III, (each not exceeding 1 L capacity). | 2.2 | UN1950 | | 2.2, 8 | 153, A34 | 306 | None | None | 75 kg | 150 kg | A | 48, 87, 126 | |
| Aerosols, flammable, (each not exceeding 1 L capacity). | 2.1 | UN1950 | | 2.1 | 153, N82 | 306 | None | None | 75 kg | 150 kg | A | 48, 87, 126 | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | | |
|--|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|-------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) | |
| I | Aerosols, flammable, n.o.s. (engine starting fluid) (each not exceeding 1 L capacity). | 2.1 | UN1950 | ..... | 2.1 | 153, N82 | 306 | 304 | None | Forbidden | 150 kg | A | 48, 87, 126 | |
| | Aerosols, non-flammable, (each not exceeding 1 L capacity). | 2.2 | UN1950 | ..... | 2.2 | 153 | 306, 307. | None | None | 75 kg | 150 kg | A | 48, 87, 126 | |
| | Aerosols, poison, each not exceeding 1 L capacity. | 2.2 | UN1950 | ..... | 2.2 | 153 | 306 | None | None | Forbidden | Forbidden | A | 48, 87, 126 | |
| | Air bag inflators, or Air bag mod- ules, or Seat-belt pretensioners. | 1.4G | UN0503 | | II | 1.4G .. | 161 | None | 62 | None | Forbidden | 75kg | 02 | |
| | Air bag inflators, or Air bag mod- ules, or Seat-belt pretensioners. | 9 | UN3268 | | III | 9 | 160 | 166 | 166 | 166 | 25 kg | 100 | A | |
| | Air, compressed | 2.2 | UN1002 | ..... | 2.2 | 78 | 306 | 302 | 302 | 75 kg | 150 kg | A | ..... |  |
| | Air, refrigerated liquid, (cryo- genic liquid). | 2.2 | UN1003 | ..... | 2.2, 5.1. | T75, TP5, TP22 | 320 | 316 | 318, 319. | Forbidden | 150 kg | D | 51 | |
| | Air, refrigerated liquid, (cryo- genic liquid) non-pressurized. | 2.2 | UN1003 | ..... | 2.2, 5.1. | T75, TP5, TP22 | 320 | 316 | 318, 319. | Forbidden | Forbidden | D | 51 | |
| | Aircraft engines (including tur- bines), see Engines, internal combustion. | | | | | | | | | | | | | |
| | 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 | 3, 6.1, 8. | | None | 172 | None | Forbidden | 42 L | E | ..... |  |
| Aircraft survival kits, see Life saving appliances etc. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| G Alcoholates solution, n.o.s., in alcohol. | 3 | UN3274 | | II | 3, 8 | IB2 | None | 202 | 243 | 1 L | 5 L | B | ..... |  |
| Alcoholic beverages | 3 | UN3065 | | II | 3 | 24, B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | A | ..... |  |
| ..... | ..... | ..... |  | III | 3 | 24, B1, IB3, N11, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |  |
| Alcohols, n.o.s. | 3 | UN1987 | | I | 3 | T11, TP1, TP8, TP27 | None | 201 | 243 | 1 L | 30 L | E | ..... |  |

| | | | | | | | | | | | | | | | | |
|---|---|------------|-----|--------|-------|--------------------------------|------|-------|-----|-------|-----|-------|-----------|--------|---|-------|
| | | | II | 3 | ..... | IB2, T7, TP1, TP8, TP28 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| | | | III | 3 | ..... | B1, IB3, T4, TP1, TP29 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| G | Alcohols, flammable, toxic, n.o.s. | 3 UN1986 | I | 3, 6.1 | | T14, TP2, TP13, TP27 | None | .... | 201 | ..... | 243 | ..... | Forbidden | 30 L | E | 40 |
| | | | II | 3, 6.1 | | IB2, T11, TP2, TP27 | None | .... | 202 | ..... | 243 | ..... | 1 L | 60 L | B | 40 |
| | | | III | 3, 6.1 | | B1, IB3, T7, TP1, TP28 | None | .... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| | Aldehydes, n.o.s. | 3 UN1989 | I | 3 | ..... | T11, TP1, TP27 | None | .... | 201 | ..... | 243 | ..... | 1 L | 30 L | E | ..... |
| | | | II | 3 | ..... | IB2, T7, TP1, TP8, TP28 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| | | | III | 3 | ..... | B1, IB3, T4, TP1, TP29 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| G | Aldehydes, flammable, toxic, n.o.s. | 3 UN1988 | I | 3, 6.1 | | T14, TP2, TP13, TP27 | None | .... | 201 | ..... | 243 | ..... | Forbidden | 30 L | E | 40 |
| | | | II | 3, 6.1 | | IB2, T11, TP2, TP27 | None | .... | 202 | ..... | 243 | ..... | 1 L | 60 L | B | 40 |
| | | | III | 3, 6.1 | | B1, IB3, T7, TP1, TP28 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| | Aldol | 6.1 UN2839 | II | 6.1 | ..... | IB2, T7, TP2 | None | .... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | 12 |
| G | Alkali metal alcoholates, self-heating, corrosive, n.o.s. | 4.2 UN3206 | II | 4.2, 8 | | 64, IB5, IP2 | None | .... | 212 | ..... | 242 | ..... | 15 kg | 50 kg | B | ..... |
| | | | III | 4.2, 8 | | 64, IB8, IP3 | None | .... | 213 | ..... | 242 | ..... | 25 kg | 100 kg | B | ..... |
| | Alkali metal alloys, liquid, n.o.s. | 4.3 UN1421 | I | 4.3 | ..... | A2, A3, B48, N34 | None | .... | 201 | ..... | 244 | ..... | Forbidden | 1 L | D | ..... |
| | | | I | 4.3 | ..... | A2, A3, N34 | None | .... | 201 | ..... | 244 | ..... | Forbidden | 1 L | D | 40 |
| | Alkali metal amalgam, liquid | 4.3 UN1389 | I | 4.3 | ..... | IB4, IP1, N40 | None | .... | 211 | ..... | 242 | ..... | Forbidden | 15 kg | D | ..... |
| | Alkali metal amalgam, solid | 4.3 UN1389 | I | 4.3 | ..... | IB4, IP1, N40 | None | .... | 211 | ..... | 242 | ..... | Forbidden | 15 kg | D | ..... |
| | Alkali metal amides | 4.3 UN1390 | II | 4.3 | ..... | A6, A7, A8, A19, A20, IB7, IP2 | 151 | ..... | 212 | ..... | 241 | ..... | 15 kg | 50 kg | E | 40 |
| | | | I | 4.3 | ..... | A2, A3 | None | .... | 201 | ..... | 244 | ..... | Forbidden | 1 L | D | ..... |
| | Alkali metal dispersions, or Alkaline earth metal dispersions. | 4.3 UN1391 | | | | | | | | | | | | | | |
| | <i>Alkaline corrosive liquids, n.o.s., see Caustic alkali liquids, n.o.s.</i> | | | | | | | | | | | | | | | |
| G | Alkaline earth metal alcoholates, n.o.s. | 4.2 UN3205 | II | 4.2 | ..... | 65, IB6, IP2 | None | .... | 212 | ..... | 241 | ..... | 15 kg | 50 kg | B | ..... |
| | | | III | 4.2 | ..... | 65, IB8, IP3 | None | .... | 213 | ..... | 241 | ..... | 25 kg | 100 kg | B | ..... |
| | Alkaline earth metal alloys, n.o.s. | 4.3 UN1393 | II | 4.3 | ..... | A19, IB7, IP2 | 151 | ..... | 212 | ..... | 241 | ..... | 15 kg | 50 kg | E | ..... |
| | | | I | 4.3 | ..... | A19, IB4, IP1, N34, N40 | None | .... | 211 | ..... | 242 | ..... | Forbidden | 15 kg | D | ..... |
| | Alkaline earth metal amalgams .. | 4.3 UN1392 | | | | | | | | | | | | | | |
| G | Alkaloids, liquid, n.o.s., or Alkaloid salts, liquid, n.o.s. | 6.1 UN3140 | I | 6.1 | ..... | A4, T14, TP2, TP27 | None | .... | 201 | ..... | 243 | ..... | 1 L | 30 L | A | ..... |
| | | | II | 6.1 | ..... | IB2, T11, TP2, TP27 | None | .... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | ..... |
| | | | III | 6.1 | ..... | IB3, T7, TP1, TP28 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--|---|--------------------------------------|---|-----------|--|--|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|-----------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| G | Alkaloids, solid, n.o.s. or Alka- loid salts, solid, n.o.s. <i>poi- sonous</i> . | 6.1 | UN1544 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | ..... |
|  | ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
|  | ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 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 | 8 | B2, IB2, T8, TP2, TP12, TP13 | 154 | 202 | 242 | 1 L | 30 L | B | ..... |
| | Alkyl sulfonic acids, liquid or Aryl sulfonic acids, liquid with not more than 5 percent free sul- furic acid. | 8 | UN2586 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | B | ..... |
| | Alkyl sulfonic acids, solid or Aryl sulfonic acids, solid, with more than 5 percent free sulfuric acid. | 8 | UN2583 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Alkyl sulfonic acids, solid or Aryl sulfonic acids, solid with not more than 5 percent free sul- furic acid. | 8 | UN2585 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Alkylphenols, liquid, n.o.s. (<i>in- cluding C2-C12 homologues</i>). | 8 | UN3145 | I | 8 | T14, TP2 | None | 201 | 243 | 0.5 L | 2.5 L | B | ..... |
|  | ..... | ..... | ..... | II | 8 | IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B | ..... |
|  | ..... | ..... | ..... | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Alkylphenols, solid, n.o.s. (<i>in- cluding C2-C12 homologues</i>). | 8 | UN2430 | I | 8 | IB7, IP1, T10, TP2, TP28 | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
|  | ..... | ..... | ..... | II | 8 | IB8, IP2, IP4, T3, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | B | ..... |
|  | ..... | ..... | ..... | III | 8 | IB8, IP3, T3, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| Alkylsulfuric acids | 8 | UN2571 | II | 8 | B2, IB2, T8, TP2, TP12, TP13, TP28 | 154 | 202 | 242 | 1 L | 30 L | C | 14 | |
| <i>Allethrin</i> , see Pesticides, liquid, toxic, n.o.s.. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Allyl acetate | 3 | UN2333 | II | 3, 6.1 | IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----------|--------|-----|------------|---|------|------|-----|-----------|-----------|---|-------------|
| Allyl alcohol | 6.1 | UN1098 | I | 6.1, 3 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Allyl bromide | 3 | UN1099 | I | 3, 6.1 | T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| Allyl chloride | 3 | UN1100 | I | 3, 6.1 | T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | E | 40 |
| <i>Allyl chlorocarbonate, see Allyl chloroformate.</i> | | | | | | | | | | | | |
| Allyl chloroformate | 6.1 | UN1722 | I | 6.1, 3, 8. | 2, A3, B9, B14, B32, B74, N41, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Allyl ethyl ether | 3 | UN2335 | II | 3, 6.1 | IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| Allyl formate | 3 | UN2336 | I | 3, 6.1 | T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | E | 40 |
| Allyl glycidyl ether | 3 | UN2219 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 |
| Allyl iodide | 3 | UN1723 | II | 3, 8 | A3, A6, IB1, N34, T7, TP2, TP13 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| Allyl isothiocyanate, stabilized ... | 6.1 | UN1545 | II | 6.1, 3 | A3, A7, IB2, T7, TP2 | None | 202 | 243 | Forbidden | 60 L | D | 40 |
| Allylamine | 6.1 | UN2334 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Allyltrichlorosilane, stabilized | 8 | UN1724 | II | 8, 3 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 243 | Forbidden | 30 L | C | 40 |
| Aluminum alkyl halides | 4.2 | UN3052 | I | 4.2, 4.3. | B9, B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Aluminum alkyl hydrides | 4.2 | UN3076 | I | 4.2, 4.3. | B9, B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Aluminum alkyls | 4.2 | UN3051 | I | 4.2, 4.3. | B9, B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Aluminum borohydride or Aluminum borohydride in devices. | 4.2 | UN2870 | I | 4.2, 4.3. | B11 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Aluminum bromide, anhydrous .. | 8 | UN1725 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | 40 |
| Aluminum bromide, solution | 8 | UN2580 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| Aluminum carbide | 4.3 | UN1394 | II | 4.3 | A20, IB7, IP2, N41 | 151 | 212 | 242 | 15 kg | 50 kg | A | ..... |
| Aluminum chloride, anhydrous ... | 8 | UN1726 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | 40 |
| Aluminum chloride, solution | 8 | UN2581 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| <i>Aluminum dross, wet or hot</i> | Forbidden | | | | | | | | | | | |
| Aluminum ferrosilicon powder | 4.3 | UN1395 | II | 4.3, 6.1. | A19, IB5, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | A | 40, 85, 103 |
| ..... |  |  | III | 4.3, 6.1. | A19, A20, IB4 | 151 | 213 | 241 | 25 kg | 100 kg | A | 40, 85, 103 |
| Aluminum hydride | 4.3 | UN2463 | I | 4.3 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | ..... |
| Aluminum, molten | 9 | NA9260 | III | 9 | IB3, T1, TP3 | None | None | 247 | Forbidden | Forbidden | D | ..... |
| Aluminum nitrate | 5.1 | UN1438 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|-----------------|---|--------------------------------------|---------------------------------|-----------|--------------------|--------------------------------------|--------------------------|------------------|--------------|---------------------------------|------------------------------|----------------------|----------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | <i>Aluminum phosphate solution, see Corrosive liquids, etc.</i> | | | | | | | | | | | | |
| | Aluminum phosphide | 4.3 | UN1397 | I | 4.3, 6.1 | A8, A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40, 85 |
| | Aluminum phosphide pesticides | 6.1 | UN3048 | I | 6.1 | A8, IB7, IP1 | None | 211 | 242 | Forbidden | 15 kg | E | 40, 85 |
| | Aluminum powder, coated | 4.1 | UN1309 | II | 4.1 | IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | A | 13, 39, 101 |
|  | ..... |  |  | III | 4.1 | IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | 13, 39, 101 |
| | Aluminum powder, uncoated | 4.3 | UN1396 | II | 4.3 | A19, A20, IB7, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | A | 39 |
|  | ..... |  |  | III | 4.3 | A19, A20, IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | A | 39 |
| | Aluminum resinate | 4.1 | UN2715 | III | 4.1 | IB6 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Aluminum silicon powder, uncoated. | 4.3 | UN1398 | III | 4.3 | A1, A19, IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | A | 40, 85, 103 |
| | Aluminum smelting by-products or Aluminum remelting by-products. | 4.3 | UN3170 | II | 4.3 | 128, B115, IB7, IP2 | None | 212 | 242 | 15 kg | 50 kg | B | 85, 103 |
|  | ..... |  |  | III | 4.3 | 128, B115, IB8, IP4 | None | 213 | 241 | 25 kg | 100 kg | B | 85, 103 |
| | <i>Amatols, see Explosives, blasting, type B.</i> | | | | | | | | | | | | |
| G | Amines, flammable, corrosive, n.o.s. or Polyamines, flammable, corrosive, n.o.s.. | 3 | UN2733 | I | 3, 8 | T14, TP1, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | D | 40 |
|  | ..... |  |  | II | 3, 8 | IB2, T11, TP1, TP27 | None | 202 | 243 | 1 L | 5 L | B | 40 |
|  | ..... |  |  | III | 3, 8 | B1, IB3, T7, TP1, TP28 | 150 | 203 | 242 | 5 L | 60 L | A | 40 |
| G | Amines, liquid, corrosive, flammable, n.o.s. or Polyamines, liquid, corrosive, flammable, n.o.s.. | 8 | UN2734 | I | 8, 3 | A3, A6, N34, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | A | ..... |
|  | ..... |  |  | II | 8, 3 | IB2, T11, TP2, TP27 | None | 202 | 243 | 1 L | 30 L | A | ..... |
| G | Amines, liquid, corrosive, n.o.s. or Polyamines, liquid, corrosive, n.o.s.. | 8 | UN2735 | I | 8 | A3, A6, B10, N34, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | | |
|---|---|------------|-------|--------|-------|-------------------------|------|-------|-----|-------|-----------|-------|-----------|--------|---|--------|
| | | | II | 8 | ..... | B2, IB2, T11, TP1, TP27 | 154 | ..... | 202 | ..... | 242 | ..... | 1 L | 30 L | A | ..... |
| | | | III | 8 | ..... | IB3, T7, TP1, TP28 | 154 | ..... | 203 | ..... | 241 | ..... | 5 L | 60 L | A | ..... |
| G | Amines, solid, corrosive, n.o.s., or Polyamines, solid, corrosive n.o.s.. | 8 UN3259 | I | 8 | ..... | IB7, IP1 | None | ..... | 211 | ..... | 242 | ..... | 1 kg | 25 kg | A | ..... |
| | | | II | 8 | ..... | IB8, IP2, IP4 | 154 | ..... | 212 | ..... | 240 | ..... | 15 kg | 50 kg | A | ..... |
| | | | III | 8 | ..... | IB8, IP3 | 154 | ..... | 213 | ..... | 240 | ..... | 25 kg | 100 kg | A | ..... |
| | 2-Amino-4-chlorophenol | 6.1 UN2673 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| | 2-Amino-5-diethylaminopentane | 6.1 UN2946 | III | 6.1 | ..... | IB3, T4, TP1 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | A | ..... |
| | 2-Amino-4,6-Dinitrophenol, wetted with not less than 20 percent water by mass. | 4.1 UN3317 | I | 4.1 | ..... | 23, A8, A19, A20, N41 | None | ..... | 211 | ..... | None | ..... | 1 kg | 15 kg | E | 28, 36 |
| | 2-(2-Aminoethoxy) ethanol | 8 UN3055 | III | 8 | ..... | IB3, T4, TP1 | 154 | ..... | 203 | ..... | 241 | ..... | 5 L | 60 L | A | ..... |
| | N-Aminoethylpiperazine | 8 UN2815 | III | 8 | ..... | IB3, T4, TP1 | 154 | ..... | 203 | ..... | 241 | ..... | 5 L | 60 L | A | 12 |
| + | Aminophenols (o-; m-; p-) | 6.1 UN2512 | III | 6.1 | ..... | IB8, IP3, T4, TP1 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| | <i>Aminopropyl</i> diethanolamine, see Amines, etc. | | | | | | | | | | | | | | | |
| | <i>n-Aminopropyl</i> morpholine, see Amines, etc. | | | | | | | | | | | | | | | |
| | Aminopyridines (o-; m-; p-) | 6.1 UN2671 | II | 6.1 | ..... | IB8, IP2, IP4, T7, TP2 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | B | 12, 40 |
| I | Ammonia, anhydrous | 2.3 UN1005 | ..... | 2.3, 8 | ..... | 4, T50 | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 25 kg | D | 40, 57 |
| D | Ammonia, anhydrous | 2.2 UN1005 | ..... | 2.2 | ..... | 13, T50 | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 25 kg | D | 40, 57 |
| D | Ammonia solution, relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia. | 2.2 UN3318 | ..... | 2.2 | ..... | 13, T50 | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 25 kg | D | 40, 57 |
| I | Ammonia solution, relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia. | 2.3 UN3318 | ..... | 2.3, 8 | ..... | 4, T50 | 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 | 8 | ..... | IB3, IP8, T7, TP1 | 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 | ..... | 2.2 | ..... |  | 306 | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 150 kg | E | 40, 57 |
| | Ammonium arsenate | 6.1 UN1546 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| | Ammonium azide | Forbidden | | | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols | Hazardous materials descrip- tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--------------|--|----------------------------------|----------------------------------|-----|----------------|-------------------------------------|-----------------------------|--------------|------|-----------------------------|--------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | <i>Ammonium bifluoride, solid, see</i> Ammonium hydrogen difluoride, solid. | | | | | | | | | | | | |
| | <i>Ammonium bifluoride solution,</i> see Ammonium hydrogen difluoride, solution. | | | | | | | | | | | | |
| | <i>Ammonium bromate</i> | Forbidden | | | | | | | | | | | |
| | <i>Ammonium chlorate</i> | Forbidden | | | | | | | | | | | |
| | <i>Ammonium dichromate</i> | 5.1 | UN1439 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | |
| | <i>Ammonium dinitro-o-cresolate</i> ... | 6.1 | UN1843 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | B | 36, 65, 66, 77 |
| | <i>Ammonium fluoride</i> | 6.1 | UN2505 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | <i>Ammonium fluorosilicate</i> | 6.1 | UN2854 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | <i>Ammonium fulminate</i> | Forbidden | | | | | | | | | | | |
| | <i>Ammonium hydrogen sulfate</i> | 8 | UN2506 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | 40 |
| | <i>Ammonium hydrogendifluoride,</i> solid. | 8 | UN1727 | II | 8 | IB8, IP2, IP4, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | 25, 26, 40 |
| | <i>Ammonium hydrogendifluoride,</i> solution. | 8 | UN2817 | II | 8, 6.1 | IB2, N34, T8, TP2, TP12, TP13 | None | 202 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | III | 8, 6.1 | IB3, T4, TP1, TP12, TP13 | 154 | 203 | 241 | 5 L | 60 L | B | 40, 95 |
| | <i>Ammonium hydrosulfide, solu- tion, see</i> Ammonium sulfide solution. | | | | | | | | | | | | |
| D | <i>Ammonium hydroxide, see</i> Am- monia solutions, etc. | | | | | | | | | | | | |
| | <i>Ammonium metavanadate</i> | 6.1 | UN2859 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | <i>Ammonium nitrate based fer- tilizer.</i> | 5.1 | UN2067 | III | 5.1 | 52, 150, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | B | 48, 59, 60, 117 |
| AW | <i>Ammonium nitrate based fer- tilizer.</i> | 9 | UN2071 | III | 9 | 132, IB8 | 155 | 213 | 240 | 200 kg | 200 kg | A | |
| | <i>Ammonium nitrate emulsion or</i> <i>Ammonium nitrate suspension</i> <i>or Ammonium nitrate gel, in- termediate for blasting explo- sives.</i> | 5.1 | UN3375 | II | 5.1 | 52, 147 | None | 214 | 214 | Forbidden | Forbidden | D | 48, 59, 60, 124 |
| D | <i>Ammonium nitrate-fuel oil mix- ture containing only prilled</i> <i>ammonium nitrate and fuel oil.</i> | 1.5D | NA0331 | II | 1.5D | | None | 62 | None | Forbidden | Forbidden | 10 | 19E |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----------|--------|-------|---------------|--------------------|-----------|-----------|-----------|-----------|-----------|----|-----------------|
| Ammonium nitrate, liquid (<i>hot concentrated solution</i>). | 5.1 | UN2426 | ..... | 5.1 | B5, T7 | None | None | 243 | Forbidden | Forbidden | D | 59, 60 |
| 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 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 19E |
| Ammonium nitrate, with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance. | 5.1 | UN1942 | | III 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 48, 59, 60, 116 |
| Ammonium nitrite | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Ammonium perchlorate | 1.1D | UN0402 | | II 1.1D .. | 107 | None | 62 | None | Forbidden | Forbidden | 10 | 19E |
| Ammonium perchlorate | 5.1 | UN1442 | | II 5.1 | 107, A9, IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | E | 58, 69, 106 |
| Ammonium permanganate | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Ammonium persulfate | 5.1 | UN1444 | | III 5.1 | A1, A29, IB8, IP3 | 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 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E, 19E |
| Ammonium picrate, wetted with not less than 10 percent water, by mass. | 4.1 | UN1310 | | I 4.1 | 23, A2, N41 | None | 211 | None | 0.5 kg | 0.5 kg | D | 28, 36 |
| Ammonium polysulfide, solution | 8 | UN2818 | | II 8, 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | B | 12, 26, 40 |
| ..... |  |  |  | III 8, 6.1 | IB3, T4, TP1, TP13 | 154 | 203 | 241 | 5 L | 60 L | B | 12, 26, 40 |
| Ammonium polyvanadate | 6.1 | UN2861 | | II 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Ammonium silicofluoride, see Ammonium fluorosilicate. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Ammonium sulfide solution | 8 | UN2683 | | II 8, 6.1, 3. | IB1, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | B | 12, 22, 26, 100 |
| Ammunition, blank, see Cartridges for weapons, blank. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Ammunition, illuminating with or without burster, expelling charge or propelling charge. | 1.2G | UN0171 | | II 1.2G .. |  | ..... | 62 | None | Forbidden | Forbidden | 03 | ..... |
| Ammunition, illuminating with or without burster, expelling charge or propelling charge. | 1.3G | UN0254 | | II 1.3G .. |  | ..... | 62 | None | Forbidden | Forbidden | 03 | ..... |
| Ammunition, illuminating with or without burster, expelling charge or propelling charge. | 1.4G | UN0297 | | II 1.4G .. |  | ..... | 62 | None | Forbidden | 75 kg | 02 | ..... |
| Ammunition, incendiary liquid or gel, with burster, expelling charge or propelling charge. | 1.3J | UN0247 | | II 1.3J ... |  | ..... | 62 | None | Forbidden | Forbidden | 04 | 23E |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| | | | | | | | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | <i>Ammunition, incendiary (water-activated contrivances) with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc..</i> | 1.2H | UN0243 | II | 1.2H .. | | 62 | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E | |
| | <i>Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge.</i> | 1.3H | UN0244 | II | 1.3H .. | | 62 | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E | |
| | <i>Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge.</i> | 1.2G | UN0009 | II | 1.2G .. | | 62 | None | Forbidden | Forbidden | 03 | | |
| | <i>Ammunition, incendiary with or without burster, expelling charge, or propelling charge.</i> | 1.3G | UN0010 | II | 1.3G .. | | 62 | None | Forbidden | Forbidden | 03 | | |
| | <i>Ammunition, incendiary with or without burster, expelling charge, or propelling charge.</i> | 1.4G | UN0300 | II | 1.4G .. | | 62 | None | Forbidden | 75 kg | 02 | | |
| | <i>Ammunition, practice</i> | 1.4G | UN0362 | II | 1.4G .. | | 62 | None | Forbidden | 75 kg | 02 | | |
| | <i>Ammunition, practice</i> | 1.3G | UN0488 | II | 1.3G .. | | 62 | None | Forbidden | Forbidden | 03 | | |
| | <i>Ammunition, proof</i> | 1.4G | UN0363 | II | 1.4G .. | | 62 | None | Forbidden | 75 kg | 02 | | |
| | <i>Ammunition, rocket, see Warheads, rocket etc.</i> | | | | | | | | | | | | |
| | <i>Ammunition, SA (small arms), see Cartridges for weapons, etc.</i> | | | | | | | | | | | | |
| | <i>Ammunition, smoke (water-activated contrivances), white phosphorus, with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc. (UN 0248).</i> | | | | | | | | | | | | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | |
|--|------|--------|------------------|-------|-------|-------|-------|-------|-----------|-----------|-----------|--------------------------------|---|--------------------------------|
| <i>Ammunition, smoke (water-activated contrivances), without white phosphorus or phosphides, with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc. (UN 0249).</i> | | | | | | | | | | | | | | |
| Ammunition smoke, white phosphorus with burster,expelling charge, or propelling charge. | 1.2H | UN0245 | II 1.2H .. | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E | | |
| Ammunition, smoke, white phosphorus with burster, expelling charge, or propelling charge. | 1.3H | UN0246 | II 1.3H .. | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E | | |
| Ammunition, smoke with or without burster, expelling charge or propelling charge. | 1.2G | UN0015 | II 1.2G .. | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | | 8E, 17E, 20E | | |
| Ammunition, smoke with or without burster, expelling charge or propelling charge. | 1.3G | UN0016 | II 1.3G .. | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | | 8E, 17E, 20E | | |
| Ammunition, smoke with or with burster, expelling charge or propelling charge. | 1.4G | UN0303 | II 1.4G .. | ..... | 62 | ..... | None | .... | Forbidden | 75 kg | | 7E, 8E, 14E, 15E, 17E | | |
| <i>Ammunition, sporting, see Cartridges for weapons, etc. (UN 0012; UN 0328; UN 0339).</i> | | | | | | | | | | | | | | |
| Ammunition, tear-producing, non-explosive, without burster or expelling charge, non-fuzed. | 6.1 | UN2017 | II 6.1, 8 | | None | .... | 212 | ..... | None | .... | Forbidden | 50 kg | E | 13, 40 |
| Ammunition, tear-producing with burster, expelling charge or propelling charge. | 1.2G | UN0018 | II 1.2G, 8, 6.1. |  | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | | | 8E, 17E, 20E |
| Ammunition, tear-producing with burster, expelling charge or propelling charge. | 1.3G | UN0019 | II 1.3G, 8, 6.1. |  | ..... | 62 | ..... | None | .... | Forbidden | Forbidden | | | 8E, 17E, 20E |
| Ammunition, tear-producing with burster, expelling charge or propelling charge. | 1.4G | UN0301 | II 1.4G, 8, 6.1. |  | ..... | 62 | ..... | None | .... | Forbidden | 75 kg | | | 7E, 8E, 14E, 15E, 17E |
| Ammunition, toxic, non-explosive, without burster or expelling charge, non-fuzed. | 6.1 | UN2016 | II 6.1 | | None | .... | 212 | ..... | None | .... | Forbidden | 100 kg | E | 13, 40 |
| <i>Ammunition, toxic (water-activated contrivances), with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc.</i> | | | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|-------------------------------------|--------------------------|-----------|------------|--------------------------|-----------------------|-----------------------|-------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Ammunition, toxic with burster, expelling charge, or propelling charge. | 1.2K | UN0020 | II | 1.2K, 6.1. |  | ..... | 62 | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| G | Ammunition, toxic with burster, expelling charge, or propelling charge. | 1.3K | UN0021 | II | 1.3K, 6.1. |  | ..... | 62 | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| | Amyl acetates | 3 | UN1104 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Amyl acid phosphate | 8 | UN2819 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Amyl butyrates | 3 | UN2620 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Amyl chlorides | 3 | UN1107 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Amyl formates | 3 | UN1109 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Amyl mercaptans | 3 | UN1111 | II | 3 | A3, IB2, T4, TP1 | None | 202 | 242 | 5 L | 60 L | B | 95, 102 |
| | n-Amyl methyl ketone | 3 | UN1110 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Amyl nitrate | 3 | UN1112 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Amyl nitrites | 3 | UN1113 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | 40 |
| | Amylamines | 3 | UN1106 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | ..... |
|  | ..... | ..... | ..... | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | ..... |
| | Amyltrimethylchlorosilane | 8 | UN1728 | II | 8 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| | Anhydrous ammonia, see Am- monia, anhydrous. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Anhydrous hydrofluoric acid, see Hydrogen fluoride, anhydrous. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| + | Aniline | 6.1 | UN1547 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| | Aniline hydrochloride | 6.1 | UN1548 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Aniline oil, see Aniline ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Anisidines | 6.1 | UN2431 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Anisole | 3 | UN2222 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Anisoyl chloride | 8 | UN1729 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | Anti-freeze, liquid, see Flam- mable liquids, n.o.s. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Antimonous chloride, see Anti- mony trichloride. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Antimony compounds, inorganic, liquid, n.o.s.. | 6.1 | UN3141 | III | 6.1 | 35, IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Antimony compounds, inorganic, solid, n.o.s.. | 6.1 | UN1549 | III | 6.1 | 35, IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | | |
|---|-----------|--------|-------|--------|-------|-----------------------------------|------|-------|-----|-------|-----------|-------|-----------|--------|---|--------|
| Antimony lactate | 6.1 | UN1550 | III | 6.1 | ..... | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| Antimony pentachloride, liquid ... | 8 | UN1730 | II | 8 | ..... | B2, IB2, T7, TP2 | None | ..... | 202 | ..... | 242 | ..... | 1 L | 30 L | C | 40 |
| Antimony pentachloride, solutions. | 8 | UN1731 | II | 8 | ..... | B2, IB2, T7, TP2 | 154 | ..... | 202 | ..... | 242 | ..... | 1 L | 30 L | C | 40 |
| ..... | ..... | ..... | III | 8 | ..... | IB3, T4, TP1 | 154 | ..... | 203 | ..... | 241 | ..... | 5 L | 60 L | C | 40 |
| Antimony pentafluoride | 8 | UN1732 | II | 8, 6.1 | ..... | A3, A6, A7, A10, IB2, N3, T7, TP2 | None | ..... | 202 | ..... | 243 | ..... | Forbidden | 30 L | D | 40 |
| Antimony potassium tartrate | 6.1 | UN1551 | III | 6.1 | ..... | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| Antimony powder | 6.1 | UN2871 | III | 6.1 | ..... | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| <i>Antimony sulfide and a chlorate, mixtures of.</i> | Forbidden | | | | | | | | | | | | | | | |
| <i>Antimony sulfide, solid, see Antimony compounds, inorganic, n.o.s..</i> | | | | | | | | | | | | | | | | |
| Antimony trichloride, liquid | 8 | UN1733 | II | 8 | ..... | B2, IB2 | 154 | ..... | 202 | ..... | 242 | ..... | 1 L | 30 L | C | 40 |
| Antimony trichloride, solid | 8 | UN1733 | II | 8 | ..... | IB8, IP2, IP4 | 154 | ..... | 212 | ..... | 240 | ..... | 15 kg | 50 kg | A | 40 |
| <i>Aqua ammonia, see Ammonia solution, etc.</i> | | | | | | | | | | | | | | | | |
| Argon, compressed | 2.2 | UN1006 | ..... | 2.2 | ..... |  | 306 | ..... | 302 | ..... | 314, 315. | ..... | 75 kg | 150 kg | A | ..... |
| Argon, refrigerated liquid (<i>cryogenic liquid</i>). | 2.2 | UN1951 | ..... | 2.2 | ..... | T75, TP5 | 320 | ..... | 316 | ..... | 318 | ..... | 50 kg | 500 kg | B | ..... |
| Arsenic | 6.1 | UN1558 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| Arsenic acid, liquid | 6.1 | UN1553 | I | 6.1 | ..... | T20, TP2, TP7, TP13 | None | ..... | 201 | ..... | 243 | ..... | 1 L | 30 L | B | 46 |
| Arsenic acid, solid | 6.1 | UN1554 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| Arsenic bromide | 6.1 | UN1555 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | 12, 40 |
| <i>Arsenic chloride, see Arsenic trichloride.</i> | | | | | | | | | | | | | | | | |
| Arsenic compounds, liquid, n.o.s. inorganic, 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 | 6.1 | ..... | T14, TP2, TP9, TP13, TP27 | None | ..... | 201 | ..... | 243 | ..... | 1 L | 30 L | B | 40 |
| ..... |  |  | II | 6.1 | ..... | IB2, T11, TP2, TP13, TP27 | None | ..... | 202 | ..... | 243 | ..... | 5 L | 60 L | B | 40 |
| ..... |  |  | III | 6.1 | ..... | IB3, T7, TP2, TP28 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | B | 40 |
| Arsenic compounds, solid, n.o.s. inorganic, 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 | 6.1 | ..... | IB7, IP1 | None | ..... | 211 | ..... | 242 | ..... | 5 kg | 50 kg | A | ..... |
| ..... |  |  | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| ..... |  |  | III | 6.1 | ..... | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| Arsenic pentoxide | 6.1 | UN1559 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| <i>Arsenic sulfide and a chlorate, mixtures of.</i> | Forbidden | | | | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-----|-------------|--|--------------------------|-----------|------------|--------------------------|-----------------------|-----------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Arsenic trichloride | 6.1 | UN1560 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | B | 40 |
| | Arsenic trioxide | 6.1 | UN1561 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | <i>Arsenic, white, solid, see Ar- senic trioxide.</i> | | | | | | | | | | | | |
| | Arsenical dust | 6.1 | UN1562 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Arsenical pesticides, liquid, flam- mable, toxic, flash point less than 23 degrees C. | 3 | UN2760 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
|  | ..... |  |  | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Arsenical pesticides, liquid, toxic | 6.1 | UN2994 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Arsenical pesticides, liquid, toxic, flammable flash point not less than 23 degrees C. | 6.1 | UN2993 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1, 3 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Arsenical pesticides, solid, toxic | 6.1 | UN2759 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | <i>Arsenious acid, solid, see Ar- senic trioxide.</i> | | | | | | | | | | | | |
| | <i>Arsenious and mercuric iodide solution, see Arsenic com- pounds, liquid, n.o.s..</i> | | | | | | | | | | | | |
| | Arsine | 2.3 | UN2188 | | 2.3, 2.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| | Articles, explosive, extremely in- sensitive or Articles, EEI. | 1.6N | UN0486 | II | 1.6N .. | 101 | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.4S | UN0349 | II | 1.4S ... | 101 | None | 62 | None | 25 kg | 100 kg | 05 | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|---|-----------|--------|-------|-----------|-----------------------|-----------|--------------|-----------|-----------|-----------|----|----------------------------|
| G | Articles, explosive, n.o.s. | 1.4B | UN0350 | II | 1.4B ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 06 | ..... |
| G | Articles, explosive, n.o.s. | 1.4C | UN0351 | II | 1.4C .. | 101 | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| G | Articles, explosive, n.o.s. | 1.4D | UN0352 | II | 1.4D .. | 101 | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| G | Articles, explosive, n.o.s. | 1.4G | UN0353 | II | 1.4G .. | 101 | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| G | Articles, explosive, n.o.s. | 1.1L | UN0354 | II | 1.1L ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| G | Articles, explosive, n.o.s. | 1.2L | UN0355 | II | 1.2L ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| G | Articles, explosive, n.o.s. | 1.3L | UN0356 | II | 1.3L ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| G | Articles, explosive, n.o.s. | 1.1C | UN0462 | II | 1.1C .. | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.1D | UN0463 | II | 1.1D .. | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.1E | UN0464 | II | 1.1E ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.1F | UN0465 | II | 1.1F ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| G | Articles, explosive, n.o.s. | 1.2C | UN0466 | II | 1.2C .. | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.2D | UN0467 | II | 1.2D .. | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.2E | UN0468 | II | 1.2E ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.2F | UN0469 | II | 1.2F ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| G | Articles, explosive, n.o.s. | 1.3C | UN0470 | II | 1.3C .. | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| G | Articles, explosive, n.o.s. | 1.4E | UN0471 | II | 1.4E ... | 101 | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| G | Articles, explosive, n.o.s. | 1.4F | UN0472 | II | 1.4F ... | 101 | None ... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| | Articles, pressurized pneumatic or hydraulic containing non- flammable gas. | 2.2 | UN3164 | ..... | 2.2 | | 306 | 302, 304. | None ... | No limit | No limit | A | ..... |
| | Articles, pyrophoric | 1.2L | UN0380 | II | 1.2L ... | | None ... | 62 | None ... | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| | Articles, pyrotechnic for <i>tech- nical purposes</i> . | 1.1G | UN0428 | II | 1.1G .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Articles, pyrotechnic for <i>tech- nical purposes</i> . | 1.2G | UN0429 | II | 1.2G .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Articles, pyrotechnic for <i>tech- nical purposes</i> . | 1.3G | UN0430 | II | 1.3G .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Articles, pyrotechnic for <i>tech- nical purposes</i> . | 1.4G | UN0431 | II | 1.4G .. | | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| | Articles, pyrotechnic for <i>tech- nical purposes</i> . | 1.4S | UN0432 | II | 1.4S ... | | None ... | 62 | None ... | 25 kg | 100 kg | 05 | ..... |
| D | Asbestos | 9 | NA2212 | III | 9 | 156, IB8, IP2, IP4 | 155 | 216 | 240 | 200 kg | 200 kg | A | 34, 40 |
| | <i>Ascaridole (organic peroxide)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| D | Asphalt, at or above its flash point. | 3 | NA1999 | III | 3 | IB3, T1, TP3 | 150 | 203 | 247 | Forbidden | Forbidden | D | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols | Hazardous materials descrip- tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--------------|---|----------------------------------|----------------------------------|-------|----------------|-------------------------------------|-----------------------------|--------------|-------|-----------------------------|--------------------------|-----------------------------|----------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| D | Asphalt, cut back, <i>see</i> Tars, li- quid, <i>etc.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Automobile, motorcycle, tractor, other self-propelled vehicle, engine, or other mechanical apparatus, see Vehicles or Battery etc.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| A G | Aviation regulated liquid, n.o.s. ... | 9 | UN3334 | ..... | 9 | A35 | 155 | 204 | ..... | No limit | No limit | A | ..... |
| A G | Aviation regulated solid, n.o.s. ... | 9 | UN3335 | ..... | 9 | A35 | 155 | 204 | ..... | No limit | No limit | A | ..... |
| | <i>Azaurolic acid (salt of) (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Azido guanidine picrate (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>5-Azido-1-hydroxy tetrazole</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Azido hydroxy tetrazole (mer- cury and silver salts).</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>3-Azido-1,2-Propylene glycol dinitrate.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Azidodithiocarbonic acid</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Azidoethyl nitrate</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>1-Aziridinylphosphine oxide- (tris), see Tris-(1-aziridinyl) phosphine oxide, solution.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Azodicarbonamide</i> | 4.1 | UN3242 | II | 4.1 | 38, IB8 | 151 | 212 | 240 | Forbidden | Forbidden | D | 12, 61, 74 |
| | <i>Azotetrazole (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Barium</i> | 4.3 | UN1400 | II | 4.3 | A19, IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | E | ..... |
| | <i>Barium alloys, pyrophoric</i> | 4.2 | UN1854 | I | 4.2 | | None | 181 | None | Forbidden | Forbidden | D | ..... |
| | <i>Barium azide, dry or wetted with less than 50 percent water, by mass.</i> | 1.1A | UN0224 | II | 1.1A, 6.1. | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | ..... |
| | <i>Barium azide, wetted with not less than 50 percent water, by mass.</i> | 4.1 | UN1571 | I | 4.1, 6.1. | 162, A2 | None | 182 | None | Forbidden | 0.5 kg | D | 28 |
| | <i>Barium bromate</i> | 5.1 | UN2719 | II | 5.1, 6.1. | IB8, IP2, IP4 | None | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | <i>Barium chlorate</i> | 5.1 | UN1445 | II | 5.1, 6.1. | A9, IB6, IP2, N34, T4, TP1 | None | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | <i>Barium compounds, n.o.s.</i> | 6.1 | UN1564 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
|  | ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|--|-----|--------|-----|-----------|--|-----------|-----------|-----------|-----------|-------------|--------------|---|----------------------|
| Barium cyanide | 6.1 | UN1565 | I | 6.1 | IB7, IP1, N74, N75 | None | 211 | 242 | | 5 kg | 50 kg | A | 26, 40 |
| Barium hypochlorite <i>with more than 22 percent available chlorine.</i> | 5.1 | UN2741 | II | 5.1, 6.1. | A7, A9, IB8, IP2, IP4, N34 | 152 | 212 | None | | 5 kg | 25 kg | B | 56, 58, 106 |
| Barium nitrate | 5.1 | UN1446 | II | 5.1, 6.1. | IB8, IP2, IP4 | None | 212 | 242 | | 5 kg | 25 kg | A | ..... |
| Barium oxide | 6.1 | UN1884 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | | 100 kg | 200 kg | A | ..... |
| Barium perchlorate | 5.1 | UN1447 | II | 5.1, 6.1. | IB6, IP2, T4, TP1 | None | 212 | 242 | | 5 kg | 25 kg | A | 56, 58, 106 |
| Barium permanganate | 5.1 | UN1448 | II | 5.1, 6.1. | IB6, IP2 | None | 212 | 242 | | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |
| Barium peroxide | 5.1 | UN1449 | II | 5.1, 6.1. | IB6, IP2 | None | 212 | 242 | | 5 kg | 25 kg | A | 13, 75, 106 |
| <i>Barium selenate, see Selenates or Selenites.</i> | | | | | | | | | | | | | |
| <i>Barium selenite, see Selenates or Selenites.</i> | | | | | | | | | | | | | |
| Batteries, containing sodium | 4.3 | UN3292 | II | 4.3 | | 189 | 189 | 189 | | Forbidden | No limit | A | ..... |
| Batteries, dry, containing potassium hydroxide solid, <i>electric, storage.</i> | 8 | UN3028 | III | 8 | | None | 213 | None | | 25 kg gross | 230 kg gross | A | ..... |
| Batteries, wet, filled with acid, <i>electric storage.</i> | 8 | UN2794 | III | 8 | | 159 | 159 | 159 | | 30 kg gross | No limit | A | ..... |
| Batteries, wet, non-spillable, <i>electric storage.</i> | 8 | UN2800 | III | 8 | | 159 | 159 | 159 | | No Limit | No Limit | A | ..... |
| Batteries, dry, <i>not subject to the requirements of this sub-chapter.</i> | | | | | | 130 | | | | | | | |
| Batteries, wet, filled with alkali, <i>electric storage.</i> | 8 | UN2795 | III | 8 | | 159 | 159 | 159 | | 30 kg gross | No limit | A | ..... |
| Battery fluid, acid | 8 | UN2796 | II | 8 | A3, A7, B2, B15, IB2, N6, N34, T8, TP2, TP12 | 154 | 202 | 242 | | 1 L | 30 L | B | ..... |
| Battery fluid, alkali | 8 | UN2797 | II | 8 | B2, IB2, N6, T7, TP2, TP28 | 154 | 202 | 242 | | 1 L | 30 L | A | 26 |
| <i>Battery lithium type, see Lithium batteries etc.</i> | | | | | | | | | | | | | |
| Battery-powered vehicle or Battery-powered equipment. | 9 | UN3171 | | 9 | | 134 | 220 | 220 | None | No limit | No limit |  | ..... |
| <i>Battery, wet, filled with acid or alkali with vehicle or mechanical equipment containing an internal combustion engine, see Vehicle, etc. or Engines, internal combustion, etc.</i> | | | | | | | | | | | | | |
| + Benzaldehyde | 9 | UN1990 | III | 9 | IB3, T2, TP1 | 155 | 203 | 241 | | 100 L | 220 L | A | ..... |
| Benzene | 3 | UN1114 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | | 5 L | 60 L | B | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | | | | | | | | | | | | | |
| | <i>Benzene diazonium chloride (dry).</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Benzene diazonium nitrate (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Benzene phosphorus dichloride, see Phenyl phosphorus di- chloride.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Benzene phosphorus thiodichloride, see Phenyl phosphorus thiodichloride.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Benzene sulfonyl chloride | 8 | UN2225 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | 40 |
| | <i>Benzene triozonide</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Benzenethiol, see Phenyl mercaptan.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Benzidine | 6.1 | UN1885 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | <i>Benzol, see Benzene</i> ..... | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... |  |
| | Benzonitrile | 6.1 | UN2224 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 26, 40 |
| | Benzoquinone | 6.1 | UN2587 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Benzotrithloride | 8 | UN2226 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 40 |
| | Benzotrifluoride | 3 | UN2338 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | <i>Benzoxidiazoles (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Benzoyl azide</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Benzoyl chloride | 8 | UN1736 | II | 8 | B2, IB2, T8, TP2, TP12, TP13 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | Benzyl bromide | 6.1 | UN1737 | II | 6.1, 8 | A3, A7, IB2, N33, N34, T8, TP2, TP12, TP13 | None | 202 | 243 | 1 L | 30 L | D | 13, 40 |
| | Benzyl chloride | 6.1 | UN1738 | II | 6.1, 8 | A3, A7, B70, IB2, N33, N42, T8, TP2, TP12, TP13 | None | 202 | 243 | 1 L | 30 L | D | 13, 40 |
| | Benzyl chloride <i>unstabilized</i> | 6.1 | UN1738 | II | 6.1, 8 | A3, A7, B8, B11, IB2, N33, N34, N43, T8, TP2, TP12, TP13 | None | 202 | 243 | 1 L | 30 L | D | 13, 40 |
| | Benzyl chloroformate | 8 | UN1739 | I | 8 | A3, A6, B4, N41, T10, TP2, TP12, TP13 | None | 201 | 243 | Forbidden | 2.5 L | D | 40 |
| | Benzyl iodide | 6.1 | UN2653 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | B | 12, 40 |
| | Benzyl dimethylamine | 8 | UN2619 | II | 8, 3 | B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | 40, 48 |
| | Benzylidene chloride | 6.1 | UN1886 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | D | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | |
|---|-----------|--------|------------------|---------------------------|-----------|-----------|-----------|-----------|-----------|-------|--------|
| Beryllium compounds, n.o.s. | 6.1 | UN1566 | II 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| ..... | ..... | ..... | III 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| Beryllium nitrate | 5.1 | UN2464 | II 5.1, | IB8, IP2, IP4 | None | 212 | 242 | 5 kg | 25 kg | A | ..... |
| ..... | ..... | ..... | 6.1, ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Beryllium, powder | 6.1 | UN1567 | II 6.1, | IB8, IP2, IP4 | None | 212 | 242 | 15 kg | 50 kg | A | ..... |
| ..... | ..... | ..... | 4.1, ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bicyclo [2,2,1] hepta-2,5-diene, stabilized or 2,5-Norbornadiene, stabilized. | 3 | UN2251 | II 3 | IB2, T7, TP2 | 150 | 202 | 242 | 5 L | 60 L | D | ..... |
| | | | | | | | | | | | |
| Biphenyl triozone | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bipyridilium pesticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 3 | UN2782 | I 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | E | ..... |
| ..... | ..... | ..... | II 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| Bipyridilium pesticides, liquid, toxic. | 6.1 | UN3016 | I 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| ..... | ..... | ..... | II 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| ..... | ..... | ..... | III 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| Bipyridilium pesticides, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN3015 | I 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 21, 40 |
| ..... | ..... | ..... | II 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 21, 40 |
| ..... | ..... | ..... | III 6.1, 3 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 21, 40 |
| Bipyridilium pesticides, solid, toxic. | 6.1 | UN2781 | I 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| ..... | ..... | ..... | II 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| ..... | ..... | ..... | III 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| Bis (Aminopropyl) piperazine, see Corrosive liquid, n.o.s. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bisulfate, aqueous solution | 8 | UN2837 | II 8 | A7, B2, IB2, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| ..... | ..... | ..... | III 8 | A7, IB3, N34, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| Bisulfites, aqueous solutions, n.o.s.. | 8 | UN2693 | III 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A | 26, 40 |
| Black powder, compressed or Gunpowder, compressed or Black powder, in pellets or Gunpowder, in pellets. | 1.1D | UN0028 | II 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Black powder or Gunpowder, granular or as a meal. | 1.1D | UN0027 | II 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Black powder for small arms | 4.1 | NA0027 | I 4.1 | 70 | None | 170 | None | Forbidden | Forbidden | E | ..... |
| Blasting agent, n.o.s., see Explosives, blasting etc. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|---|-----------------------------------|-----------------------------------|-----------|--------------------|--------------------------------------|--------------------------|-------------------|--------------|---------------------------------|-------------------------------|-----------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Blasting cap assemblies, see</i> Detonator assemblies, non- electric, <i>for blasting.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Blasting caps, electric, see</i> Det- onators, electric <i>for blasting.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Blasting caps, non-electric, see</i> Detonators, non-electric, <i>for</i> <i>blasting.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Bleaching powder, see</i> Calcium hypochlorite mixtures, <i>etc.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| I | Blue asbestos (<i>Crocidolite</i> or Brown asbestos (<i>amosite,</i> <i>mysorite</i>). | 9 | UN2212 | II | 9 | 156, IB8, IP2, IP4 | 155 | 216 | 240 | Forbidden | Forbidden | A | 34, 40 |
| | Bombs, photo-flash | 1.1F | UN0037 | II | 1.1F ... |  | ..... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| | Bombs, photo-flash | 1.1D | UN0038 | II | 1.1D .. |  | ..... | 62 | None ... | Forbidden | Forbidden | 03 | ..... |
| | Bombs, photo-flash | 1.2G | UN0039 | II | 1.2G .. |  | ..... | 62 | None ... | Forbidden | Forbidden | 03 | ..... |
| | Bombs, photo-flash | 1.3G | UN0299 | II | 1.3G .. |  | ..... | 62 | None ... | Forbidden | Forbidden | 03 | ..... |
| | Bombs, smoke, non-explosive, <i>with corrosive liquid, without</i> <i>initiating device.</i> | 8 | UN2028 | II | 8 | | None ... | 160 | None ... | Forbidden | 50 kg | E | 40 |
| | Bombs, <i>with bursting charge</i> | 1.1F | UN0033 | II | 1.1F ... |  | ..... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| | Bombs, <i>with bursting charge</i> | 1.1D | UN0034 | II | 1.1D .. |  | ..... | 62 | None ... | Forbidden | Forbidden | 03 | ..... |
| | Bombs, <i>with bursting charge</i> | 1.2D | UN0035 | II | 1.2D .. |  | ..... | 62 | None ... | Forbidden | Forbidden | 03 | ..... |
| | Bombs, <i>with bursting charge</i> | 1.2F | UN0291 | II | 1.2F ... |  | ..... | 62 | None ... | Forbidden | Forbidden | 08 | ..... |
| | Bombs with flammable liquid, <i>with bursting charge.</i> | 1.1J | UN0399 | II | 1.1J ... |  | ..... | 62 | None ... | Forbidden | Forbidden | 04 | 23E |
| | Bombs with flammable liquid, <i>with bursting charge.</i> | 1.2J | UN0400 | II | 1.2J ... |  | ..... | 62 | None ... | Forbidden | Forbidden | 04 | 23E |
| | Boosters with detonator | 1.1B | UN0225 | II | 1.1B ... | | None ... | 62 | None ... | Forbidden | Forbidden | 11 | ..... |
| | Boosters with detonator | 1.2B | UN0268 | II | 1.2B ... | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Boosters, <i>without detonator</i> | 1.1D | UN0042 | II | 1.1D .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Boosters, <i>without detonator</i> | 1.2D | UN0283 | II | 1.2D .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | <i>Borate and chlorate mixtures,</i> <i>see Chlorate and borate mix-</i> <i>tures.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Borneol | 4.1 | UN1312 | III | 4.1 | A1, IB8, IP3 | None ... | 213 | 240 | 25 kg | 100 kg | A | ..... |

| | | | | | | | | | | | | |
|---|-----------|--------|-------|--------------|---|-----------|-----------|-----------|-----------|-----------|-------|------------------------|
| + Boron tribromide | 8 | UN2692 | I | 8, 6.1 | 2, A3, A7, B9, B14, B32, B74, N34, T20, TP2, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | 12 |
| Boron trichloride | 2.3 | UN1741 | ..... | 2.3, 8 | 3, B9, B14 | None | 304 | 314 | Forbidden | Forbidden | D | 25, 40 |
| Boron trifluoride | 2.3 | UN1008 | ..... | 2.3 | 2, B9, B14 | None | 302 | 314, 315. | Forbidden | Forbidden | D | 40 |
| Boron trifluoride acetic acid complex. | 8 | UN1742 | II | 8 | B2, B6, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| Boron trifluoride diethyl etherate | 8 | UN2604 | I | 8, 3 | A19, T10, TP2 | None | 201 | 243 | 0.5 L | 2.5 L | D | 40 |
| Boron trifluoride dihydrate | 8 | UN2851 | II | 8 | IB8, IP2, IP4, T7, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | B | 12, 40, |
| Boron trifluoride dimethyl etherate. | 4.3 | UN2965 | I | 4.3, 8, 3. | A19, T10, TP2, TP7 | None | 201 | 243 | Forbidden | 1 L | D | 21, 28, 40, 49, 100 |
| Boron trifluoride propionic acid complex. | 8 | UN1743 | II | 8 | B2, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| <i>Box toe gum, see Nitrocellulose etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bromates, inorganic, aqueous solution, n.o.s.. | 5.1 | UN3213 | II | 5.1 | IB2, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | B | 56, 58, 106 |
| Bromates, inorganic, n.o.s. | 5.1 | UN1450 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| <i>Bromine azide</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| + Bromine or Bromine solutions | 8 | UN1744 | I | 8, 6.1 | 1, A3, A6, B9, B64, B85, N34, N43, T22, TP2, TP10, TP12, TP13 | None | 226 | 249 | Forbidden | Forbidden | ..... | 12, 40, 66, 74, 89, 90 |
| Bromine chloride | 2.3 | UN2901 | ..... | 2.3, 8, 5.1. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40, 89, 90 |
| + Bromine pentafluoride | 5.1 | UN1745 | I | 5.1, 6.1, 8. | 1, B9, B14, B30, B72, T22, TP2, TP12, TP13, TP38, TP44 | None | 228 | 244 | Forbidden | Forbidden | D | 25, 40, 66, 90 |
| + Bromine trifluoride | 5.1 | UN1746 | I | 5.1, 6.1, 8. | 2, B9, B14, B32, B74, T22, TP2, TP12, TP13, TP38, TP45 | None | 228 | 244 | Forbidden | Forbidden | D | 25, 40, 66, 90 |
| <i>4-Bromo-1,2-dinitrobenzene</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>4-Bromo-1,2-dinitrobenzene (unstable at 59 degrees C).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1-Bromo-3-chloropropane | 6.1 | UN2688 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| 1-Bromo-3-methylbutane | 3 | UN2341 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| <i>1-Bromo-3-nitrobenzene (unstable at 56 degrees C).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 2-Bromo-2-nitropropane-1,3-diol | 4.1 | UN3241 | III | 4.1 | 46, IB8, IP3 | 151 | 213 | None | 25 kg | 50 kg | C | 12, 25, 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|--|----------------------------|----------------------------|-------|-------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Bromoacetic acid, <i>solid</i> | 8 | UN1938 | II | 8 | A7, IB8, IP2, IP4, N34, T7 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| + | Bromoacetic acid, <i>solution</i> | 8 | UN1938 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 40 |
| | Bromoacetone | 6.1 | UN1569 | II | 6.1, 3 | 2, T20, TP2, TP13 | None | 193 | 245 | Forbidden | Forbidden | D | 40 |
| | Bromoacetyl bromide | 8 | UN2513 | II | 8 | B2, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | Bromobenzene | 3 | UN2514 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Bromobenzyl cyanides, <i>liquid</i> | 6.1 | UN1694 | I | 6.1 | T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | D | 12, 40 |
| | Bromobenzyl cyanides, <i>solid</i> | 6.1 | UN1694 | I | 6.1 | T14, TP2, TP13 | None | 211 | 242 | Forbidden | 50 kg | D | 12, 40 |
| | 1-Bromobutane | 3 | UN1126 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5L | 60 L | B | 40 |
| | 2-Bromobutane | 3 | UN2339 | II | 3 | B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | Bromochloromethane | 6.1 | UN1887 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | 2-Bromoethyl ether | 3 | UN2340 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | Bromoform | 6.1 | UN2515 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 12, 40 |
| | Bromomethylpropanes | 3 | UN2342 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | 2-Bromopentane | 3 | UN2343 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Bromopropanes | 3 | UN2344 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 3 | IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | 3-Bromopropyne | 3 | UN2345 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | D | 40 |
| | <i>Bromosilane</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Bromotoluene-alpha</i> , see Benzyl bromide. .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Bromotrifluoroethylene | 2.1 | UN2419 | ..... | 2.1 | ..... | None | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Bromotrifluoromethane or Refrig- erant gas, R 13B1.. | 2.2 | UN1009 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Brucine | 6.1 | UN1570 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | ..... |
| | Bursters, <i>explosive</i> | 1.1D | UN0043 | II | 1.1D | ..... | None | 62 | None | Forbidden | Forbidden | O7 | ..... |
| | Butadienes, stabilized | 2.1 | UN1010 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Butane <i>see also</i> Petroleum gases, liquefied. | 2.1 | UN1011 | ..... | 2.1 | 19, T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | <i>Butane, butane mixtures and mixtures having similar prop- erties in cartridges each not exceeding 500 grams, see</i> Receptacles, etc. .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Butanedione | 3 | UN2346 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | 1,2,4-Butanetriol trinitrate | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | |
|--|-----------|--------|--------------|---|-------|-------|-------|-----------|-----------|-------|-----------------------------|
| Butanols | 3 | UN1120 | II 3 | IB2, T4, TP1, TP29 | 150 | 202 | 242 | 5 L | 60 L | B | |
| ..... | Forbidden | | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| <i>tert</i> -Butoxycarbonyl azide | 3 | UN1123 | II 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| Butyl acetates | 8 | UN1718 | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Butyl acid phosphate | 3 | UN2348 | III 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | |
| Butyl acrylates, stabilized | 3 | UN2709 | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| <i>Butyl alcohols</i> , see Butanols | | | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Butyl benzenes | 3 | UN2709 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>n</i> -Butyl bromide, see 1-Bromobutane, ..... |  |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>n</i> -Butyl chloride, see Chlorobutanes, ..... |  |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| D sec-Butyl chloroformate | 6.1 | NA2742 | I 6.1, 3, 8. | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | 1 L | 30 L | A | 12, 13, 22, 25, 40, 48, 100 |
| <i>n</i> -Butyl chloroformate | 6.1 | UN2743 | I 6.1, 8, 3. | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | A | 12, 13, 21, 25, 40, 100 |
| <i>Butyl ethers</i> , see Dibutyl ethers ..... |  |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>Butyl ethyl ether</i> , see Ethyl butyl ether, ..... |  |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>n</i> -Butyl formate | 3 | UN1128 | II 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| <i>tert</i> -Butyl hydroperoxide, with more than 90 percent with water, | Forbidden |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>tert</i> -Butyl hypochlorite | 4.2 | UN3255 | I 4.2, 8 | ..... | None | 211 | 243 | Forbidden | Forbidden | D | |
| <i>N</i> - <i>n</i> -Butyl imidazole | 6.1 | UN2690 | II 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| <i>tert</i> -Butyl isocyanate | 6.1 | UN2484 | I 6.1, 3 | 1, A7, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| <i>n</i> -Butyl isocyanate | 6.1 | UN2485 | I 6.1, 3 | 2, A7, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Butyl mercaptans | 3 | UN2347 | II 3 | A3, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | D | 26, 95 |
| <i>n</i> -Butyl methacrylate, stabilized | 3 | UN2227 | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Butyl methyl ether | 3 | UN2350 | II 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| Butyl nitrites | 3 | UN2351 | I 3 | T11, TP1, TP8, TP27 | 150 | 201 | 243 | 1 L | 30 L | E | 40 |
| ..... |  |  | II 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| <i>tert</i> -Butyl peroxyacetate, with more than 76 percent in solution, | Forbidden | | III 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 |
| | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | <i>n</i> -Butyl peroxydicarbonate, with more than 52 percent in solution. | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>tert</i> -Butyl peroxyisobutyrate, with more than 77 percent in solution. | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Butyl phosphoric acid, see Butyl acid phosphate. |  |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Butyl propionates | 3 | UN1914 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | 5- <i>tert</i> -Butyl-2,4,6-trinitro- <i>m</i> -xylene or Musk xylene. | 4.1 | UN2956 | III | 4.1 | 159 | None | 223 | None | Forbidden | Forbidden | D | 12, 25, 48, 127 |
| | Butyl vinyl ether, stabilized | 3 | UN2352 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | <i>n</i> -Butylamine | 3 | UN1125 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 242 | 1 L | 5 L | B | 40 |
| | <i>N</i> -Butylaniline | 6.1 | UN2738 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | <i>tert</i> -Butylcyclohexylchloroformate | 6.1 | UN2747 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 12, 13, 25 |
| | Butylene see also Petroleum gases, liquefied. | 2.1 | UN1012 | ..... | 2.1 | 19, T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | 1,2-Butylene oxide, stabilized | 3 | UN3022 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 49 |
| | Butyltoluenes | 6.1 | UN2667 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Butyltrichlorosilane | 8 | UN1747 | II | 8, 3 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 243 | Forbidden | 30 L | C | 40 |
| | 1,4-Butynediol | 6.1 | UN2716 | III | 6.1 | A1, IB8, IP3 | None | 213 | 240 | 100 kg | 200 kg | A | 61, 70 |
| | Butyraldehyde | 3 | UN1129 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Butyraldoxime | 3 | UN2840 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Butyric acid | 8 | UN2820 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | 12 |
| | Butyric anhydride | 8 | UN2739 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Butyronitrile | 3 | UN2411 | II | 3, 6.1 | IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | Butyryl chloride | 3 | UN2353 | II | 3, 8 | IB2, T8, TP2, TP12, TP13 | None | 202 | 243 | 1 L | 5 L | C | 40 |
| | Cacodylic acid | 6.1 | UN1572 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | E | 26 |
| | Cadmium compounds | 6.1 | UN2570 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | ..... |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Caesium hydroxide | 8 | UN2682 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Caesium hydroxide solution | 8 | UN2681 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
|  | ..... |  |  | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Calcium | 4.3 | UN1401 | II | 4.3 | IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | E | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-----|--------|-----|-----------|---------------------------------|-----------|-----------|-----------|-----------|--------|---|--------------------------|
| Calcium arsenate | 6.1 | UN1573 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Calcium arsenate and calcium arsenite, mixtures, solid. | 6.1 | UN1574 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| <i>Calcium bisulfite solution, see Bisulfites, aqueous solutions, n.o.s..</i> | | | | | | | | | | | | |
| Calcium carbide | 4.3 | UN1402 | I | 4.3 | A1, A8, B55, B59, IB4, IP1, N34 | None | 211 | 242 | Forbidden | 15 kg | B | ..... |
| ..... |  |  | II | 4.3 | A1, A8, B55, B59, IB7, IP2, N34 | 151 | 212 | 241 | 15 kg | 50 kg | B | ..... |
| Calcium chlorate | 5.1 | UN1452 | II | 5.1 | IB8, IP2, IP4, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Calcium chlorate aqueous solution. | 5.1 | UN2429 | II | 5.1 | A2, IB2, N41, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | B | 56, 58, 106 |
| ..... |  |  | III | 5.1 | A2, IB2, N41, T4, TP1 | 152 | 203 | 241 | 2.5 L | 30 L | B | 56, 58, 106 |
| Calcium chlorite | 5.1 | UN1453 | II | 5.1 | A9, IB8, IP2, IP4, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Calcium cyanamide <i>with more than 0.1 percent of calcium carbide.</i> | 4.3 | UN1403 | III | 4.3 | A1, A19, IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | A | ..... |
| Calcium cyanide | 6.1 | UN1575 | I | 6.1 | IB7, IP1, N79, N80 | None | 211 | 242 | 5 kg | 50 kg | A | 26, 40 |
| Calcium dithionite <i>or</i> Calcium hydrosulfite. | 4.2 | UN1923 | II | 4.2 | A19, A20, IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | E | 13 |
| Calcium hydride | 4.3 | UN1404 | I | 4.3 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | ..... |
| Calcium hydrosulfite, <i>see</i> Calcium dithionite. | | | | | | | | | | | | |
| Calcium hypochlorite, dry <i>or</i> Calcium hypochlorite mixtures dry <i>with more than 39 percent available chlorine (8.8 percent available oxygen).</i> | 5.1 | UN1748 | II | 5.1 | A7, A9, IB8, IP2, IP4, N34, W9 | 152 | 212 | None | 5 kg | 25 kg | D | 4, 5, 25, 48, 56, 58, 69 |
| Calcium hypochlorite, hydrated <i>or</i> Calcium hypochlorite, hydrated mixtures, <i>with not less than 5.5 percent but not more than 16 percent water.</i> | 5.1 | UN2880 | II | 5.1 | IB8, IP2, IP4, W9 | 152 | 212 | 240 | 5 kg | 25 kg | D | 4, 5, 25, 48, 56, 58, 69 |
| Calcium hypochlorite mixtures, dry, <i>with more than 10 percent but not more than 39 percent available chlorine.</i> | 5.1 | UN2208 | III | 5.1 | A1, A29, IB8, IP3, N34, W9 | 152 | 213 | 240 | 25 kg | 100 kg | D | 4, 5, 25, 48, 56, 58, 69 |
| Calcium manganese silicon | 4.3 | UN2844 | III | 4.3 | A1, A19, IB8, IP2, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | A | 85, 103 |
| Calcium nitrate | 5.1 | UN1454 | III | 5.1 | 34, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| Calcium oxide | 8 | UN1910 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| Calcium perchlorate | 5.1 | UN1455 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |

A

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|---|-----------------------------------|-----------------------------------|-----------|---------------------|--------------------------------------|-----------------------------|-------------------|--------------|---------------------------------|-------------------------------|--------------------------|----------------------|
| | | | | | | | (8A) Excep- tions | (8B) Non- bulk | (8C) Bulk | (9A) Passenger aircraft/rail | (9B) Cargo air- craft only | (10A) Loca- tion | (10B) Other |
| | Calcium permanganate | 5.1 | UN1456 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |
| | Calcium peroxide | 5.1 | UN1457 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 13, 75, 106 |
| | Calcium phosphide | 4.3 | UN1360 | I | 4.3, 6.1, 4.2 | A8, A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40, 85 |
| | Calcium, pyrophoric or Calcium alloys, pyrophoric. | 4.2 | UN1855 | I | 4.2 | | None | 187 | None | Forbidden | Forbidden | D | ..... |
| | Calcium resinate | 4.1 | UN1313 | III | 4.1 | A1, A19, IB6 | None | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Calcium resinate, fused | 4.1 | UN1314 | III | 4.1 | A1, A19, IB4 | None | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Calcium selenate, see Selenates or Selenites. | | | | | | | | | | | | |
| | Calcium silicide | 4.3 | UN1405 | II | 4.3 | A19, IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | B | 85, 103 |
|  | ..... |  |  | III | 4.3 | A1, A19, IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | B | 85, 103 |
| | Camphor oil | 3 | UN1130 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Camphor, synthetic | 4.1 | UN2717 | III | 4.1 | A1, IB8, IP3 | None | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Cannon primers, see Primers, tubular. | | | | | | | | | | | | |
| | Caproic acid | 8 | UN2829 | III | 8 | IB3, T4, TP1 | 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 | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
|  | ..... |  |  | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Carbamate pesticides, liquid, toxic. | 6.1 | UN2992 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP2, TP28 | 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 | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols (1) | Hazardous materials descrip- tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-------------------------|--|---|---|---------------|---------------------------|--|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | | | | | | | | | | | | | |
| | <i>Cartridges, explosive, see</i> Charges, demolition. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Cartridges, flash | 1.1G | UN0049 | II | 1.1G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Cartridges, flash | 1.3G | UN0050 | II | 1.3G .. | | None | 62 | None | Forbidden | 75 kg | 07 | ..... |
| | Cartridges for weapons, blank ... | 1.1C | UN0326 | II | 1.1C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Cartridges for weapons, blank ... | 1.2C | UN0413 | II | 1.2C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Cartridges for weapons, blank or Cartridges, small arms, blank. | 1.4S | UN0014 | II | None | | 63 | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Cartridges for weapons, blank or Cartridges, small arms, blank. | 1.3C | UN0327 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Cartridges for weapons, blank or Cartridges, small arms, blank. | 1.4C | UN0338 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Cartridges for weapons, inert projectile. | 1.2C | UN0328 | II | 1.2C .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Cartridges for weapons, inert projectile or Cartridges, small arms. | 1.4S | UN0012 | II | None | | 63 | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Cartridges for weapons, inert projectile or Cartridges, small arms. | 1.4C | UN0339 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Cartridges for weapons, inert projectile or Cartridges, small arms. | 1.3C | UN0417 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 06 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.1F | UN0005 | II | 1.1F ... | | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.1E | UN0006 | II | 1.1E ... | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.2F | UN0007 | II | 1.2F ... | | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.2E | UN0321 | II | 1.2E ... | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.4F | UN0348 | II | 1.4F ... | | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| | Cartridges for weapons, with <i>bursting charge</i> . | 1.4E | UN0412 | II | 1.4E ... | | None | 62 | None | Forbidden | 75 kg | 02 | ..... |
| | Cartridges, oil well | 1.3C | UN0277 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Cartridges, oil well | 1.4C | UN0278 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Cartridges, power device | 1.3C | UN0275 | II | 1.3C .. | | None | 62 | None | Forbidden | 75 kg | 07 | ..... |
| | Cartridges, power device | 1.4C | UN0276 | II | 1.4C .. | 110 | None | 62 | None | Forbidden | 75 kg | 06 | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|-----|---|-------|--------|-----|-----------|-------------------------|-----------|-----------|-----------|-------------|-------------|----|--------|
| | Cartridges, power device | 1.4S | UN0323 | II | 1.4S ... | 110 | 63 | 62 | None ... | 25 kg | 100 kg | 05 | ..... |
| | Cartridges, power device | 1.2C | UN0381 | II | 1.2C .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| D | Cartridges power devices (used to project fastening devices). | ORM-D | | | None | | 63 | None ... | None ... | 30 kg gross | 30 kg gross | A | ..... |
| | 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 | 1.3G .. | | None ... | 62 | None ... | Forbidden | 75 kg | 07 | ..... |
| | Cartridges, signal | 1.4G | UN0312 | II | 1.4G .. | | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| | Cartridges, signal | 1.4S | UN0405 | II | 1.4S ... | | None ... | 62 | None ... | 25 kg | 100 kg | 05 | ..... |
| D | Cartridges, small arms | ORM-D | | | None | | 63 | 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. |  |  |  |  |  |  |  |  |  |  |  | ..... |
| | Cases, cartridge, empty with primer. | 1.4S | UN0055 | II | 1.4S ... | 50 | None ... | 62 | None ... | 25 kg | 100 kg | 05 | ..... |
| | Cases, cartridges, empty with primer. | 1.4C | UN0379 | II | 1.4C .. | 50 | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| | Cases, combustible, empty, without primer. | 1.4C | UN0446 | II | 1.4C .. | | None ... | 62 | None ... | Forbidden | 75 kg | 06 | ..... |
| | Cases, combustible, empty, without primer. | 1.3C | UN0447 | II | 1.3C .. | | None ... | 62 | None ... | Forbidden | Forbidden | 07 | ..... |
| | Casinghead gasoline see Gasoline. |  |  |  |  |  |  |  |  |  |  |  | ..... |
| A W | Castor beans or Castor meal or Castor pomace or Castor flake. | 9 | UN2969 | II | None | IB8, IP2, IP4 | 155 | 204 | 240 | No limit | No limit | E | 34, 40 |
| G | Caustic alkali liquids, n.o.s. | 8 | UN1719 | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
|  | ..... |  |  | III | 8 | IB3, T7, TP1, TP28 | 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 | 4.3 | | 189 | 189 | 189 | 25 kg gross | No limit | A | ..... |
| | Celluloid, in block, rods, rolls, sheets, tubes, etc., except scrap. | 4.1 | UN2000 | III | 4.1 | | None ... | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Celluloid, scrap | 4.2 | UN2002 | III | 4.2 | IB8, IP3 | None ... | 213 | 241 | Forbidden | Forbidden | D | ..... |
| | Cement, see Adhesives containing flammable liquid. |  |  |  |  |  |  |  |  |  |  |  | ..... |
| | Cerium, slabs, ingots, or rods ... | 4.1 | UN1333 | II | 4.1 | IB8, IP2, IP4, N34 | None ... | 212 | 240 | 15 kg | 50 kg | A | 74, 91 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--|---|----------------------------|----------------------------|---------|-------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| D | Cerium, <i>turnings or gritty powder</i> | 4.3 | UN3078 | II | 4.3 | A1, IB7, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | E | ..... |
| | Cesium or Caesium | 4.3 | UN1407 | I | 4.3 | A19, IB1, IP1, N34, N40 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| | Cesium nitrate or Caesium ni- trate. | 5.1 | UN1451 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Charcoal <i>briquettes, shell, screenings, wood, etc.</i> | 4.2 | NA1361 | III | 4.2 | IB8 | 151 | 213 | 240 | 25 kg | 100 kg | A | 12 |
| | Charges, bursting, plastics bonded. | 1.1D | UN0457 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, bursting, plastics bonded. | 1.2D | UN0458 | II | 1.2D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, bursting, plastics bonded. | 1.4D | UN0459 | II | 1.4D .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Charges, bursting, plastics bonded. | 1.4S | UN0460 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Charges, demolition | 1.1D | UN0048 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Charges, depth | 1.1D | UN0056 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Charges, <i>expelling, explosive, for fire extinguishers, see Car- tridges, power device.</i> | | | | | | | | | | | | |
| | Charges, explosive, commercial <i>without detonator.</i> | 1.1D | UN0442 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, explosive, commercial <i>without detonator.</i> | 1.2D | UN0443 | II | 1.2D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, explosive, commercial <i>without detonator.</i> | 1.4D | UN0444 | II | 1.4D .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Charges, explosive, commercial <i>without detonator.</i> | 1.4S | UN0445 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Charges, propelling | 1.1C | UN0271 | II | 1.1C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, propelling | 1.3C | UN0272 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, propelling | 1.2C | UN0415 | II | 1.2C .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, propelling | 1.4C | UN0491 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Charges, propelling, for cannon | 1.3C | UN0242 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Charges, propelling, for cannon | 1.1C | UN0279 | II | 1.1C .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |  |
| Charges, propelling, for cannon | 1.2C | UN0414 | II | 1.2C .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |  |
| Charges, shaped, flexible, linear | 1.4D | UN0237 | II | 1.4D .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |  |
| Charges, shaped, flexible, linear | 1.1D | UN0288 | II | 1.1D .. | 101 | None | 62 | None | Forbidden | Forbidden | 07 | ..... |  |
| Charges, shaped, <i>without deto- nator.</i> | 1.1D | UN0059 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |  |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|--|-----------|--------|-------|--------------------|--|------------------------------------|-----------|-----------|--------------|-----------|-----------|-------|
| | Charges, shaped, <i>without deto-</i> <i>nator.</i> | 1.2D | UN0439 | II | 1.2D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Charges, shaped, <i>without deto-</i> <i>nator.</i> | 1.4D | UN0440 | II | 1.4D .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Charges, shaped, <i>without deto-</i> <i>nator.</i> | 1.4S | UN0441 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Charges, supplementary explo- sive. | 1.1D | UN0060 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| D | Chemical kit | 8 | NA1760 | II | 8 | | 154 | 161 | None | 1 L | 30 L | B | 40 |
| | Chemical kits | 9 | UN3316 | ..... | 9 | | 15 | 161 | 161 | None | 10 kg | 10 kg | A |
| | Chloral, anhydrous, stabilized | 6.1 | UN2075 | II | 6.1 | | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | D |
| | Chlorate and borate mixtures | 5.1 | UN1458 | II | 5.1 | | A9, IB8, IP2, IP4, N34 | 152 | 212 | 240 | 5 kg | 25 kg | A |
|  | ..... |  |  | III | 5.1 | | A9, IB8, IP3, N34 | 152 | 213 | 240 | 25 kg | 100 kg | A |
| | Chlorate and magnesium chlo- ride mixtures. | 5.1 | UN1459 | II | 5.1 | | A9, IB8, IP2, IP4, N34, T4, TP1 | 152 | 212 | 240 | 5 kg | 25 kg | A |
|  | ..... |  |  | III | 5.1 | | A9, IB8, IP3, N34, T4, TP1 | 152 | 213 | 240 | 25 kg | 100 kg | A |
| | <i>Chlorate of potash, see Potas-</i> <i>sium chlorate.</i> | | | | | | | | | | | | |
| | <i>Chlorate of soda, see Sodium</i> <i>chlorate.</i> | | | | | | | | | | | | |
| | Chlorates, inorganic, aqueous solution, n.o.s.. | 5.1 | UN3210 | II | 5.1 | | IB2, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | B |
| | Chlorates, inorganic, n.o.s. | 5.1 | UN1461 | II | 5.1 | | A9, IB6, IP2, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A |
| | Chloric acid aqueous solution, <i>with not more than 10 percent</i> <i>chloric acid.</i> | 5.1 | UN2626 | II | 5.1 | | IB2 | None | 229 | None | Forbidden | Forbidden | D |
| | <i>Chloride of phosphorus, see</i> <i>Phosphorus trichloride.</i> | | | | | | | | | | | | |
| | <i>Chloride of sulfur, see Sulfur</i> <i>chloride.</i> | | | | | | | | | | | | |
| | <i>Chlorinated lime, see Calcium</i> <i>hypochlorite mixtures, etc.</i> | | | | | | | | | | | | |
| | Chlorine | 2.3 | UN1017 | ..... | 2.3, 8 | | 2, B9, B14, T50, TP19 | None | 304 | 314, 315. | Forbidden | Forbidden | D |
| D | <i>Chlorine azide</i> | Forbidden | | | | | | | | | | | |
| | Chlorine dioxide, hydrate, frozen | 5.1 | NA9191 | II | 5.1, 6.1. | | | None | 229 | None | Forbidden | Forbidden | E |
| | <i>Chlorine dioxide (not hydrate)</i> | Forbidden | | | | | | | | | | | |
| | Chlorine pentafluoride | 2.3 | UN2548 | ..... | 2.3, 5.1, 8. | | 1, B7, B9, B14 | None | 304 | 314 | Forbidden | Forbidden | D |
| | Chlorine trifluoride | 2.3 | UN1749 | ..... | 2.3, 5.1, 8. | | 2, B7, B9, B14 | None | 304 | 314 | Forbidden | Forbidden | D |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|-----------------------------------|-----------------------------------|-----------|--------------------|---|-----------------------------|-----------|-----------|-----------------------------|-----------------------|--------------------------|-------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Chlorite solution | 8 | UN1908 | II | 8 | A3, A6, A7, B2, IB2, N34, T7, TP2, TP24 | 154 | 202 | 242 | 1 L | 30 L | B | 26 |
|  | ..... |  |  | III | 8 | A3, A6, A7, B2, IB3, N34, T4, TP2, TP24 | 154 | 203 | 241 | 5 L | 60 L | B | 26 |
| | Chlorites, inorganic, n.o.s. | 5.1 | UN1462 | II | 5.1 | A7, IB6, IP2, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | 1-Chloro-1,1-difluoroethane or Refrigerant gas R 142b. | 2.1 | UN2517 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | 3-Chloro-4-methylphenyl isocyanate. | 6.1 | UN2236 | II | 6.1 | IB2 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | 1-Chloro-1,2,2,2-tetrafluoroethane or Refrigerant gas R 124. | 2.2 | UN1021 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | 4-Chloro-o-toluidine hydrochloride. | 6.1 | UN1579 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | 1-Chloro-2,2,2-trifluoroethane or Refrigerant gas R 133a. | 2.2 | UN1983 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Chloroacetic acid, molten | 6.1 | UN3250 | II | 6.1, 8 | IB1, T7, TP3, TP28 | None | 202 | 243 | Forbidden | Forbidden | C | 40 |
| | Chloroacetic acid, solid | 6.1 | UN1751 | II | 6.1, 8 | A3, A7, IB8, IP4, N34 | None | 212 | 242 | 15 kg | 50 kg | A | 40 |
| | Chloroacetic acid, solution | 6.1 | UN1750 | II | 6.1, 8 | A7, IB2, N34, T7, TP2 | None | 202 | 243 | 1 L | 30 L | C | 40 |
| | Chloroacetone, stabilized | 6.1 | UN1695 | I | 6.1, 3, 8. | 2, B9, B14, B32, B74, N12, N32, N34, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 21, 40, 100 |
| | <i>Chloroacetone (unstabilized)</i> | Forbidden |  |  | ..... |  |  |  |  |  |  |  |  |
| + | Chloroacetonitrile | 6.1 | UN2668 | II | 6.1, 3 | 2, B9, B14, B32, B74, IB99, T20, TP2, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | A | 12, 26, 40 |
| | Chloroacetophenone (CN), liquid | 6.1 | UN1697 | II | 6.1 | A3, IB2, N12, N32, N33, T11, TP2, TP13, TP27 | None | 202 | 243 | Forbidden | 60 L | D | 12, 40 |

| | | | | | | | | | | | | |
|---|-----|--------|-----|------------|---|------|-----|-----------|-----------|-----------|---|-------------------------|
| Chloroacetophenone (CN), solid | 6.1 | UN1697 | II | 6.1 | A3, IB8, IP2, IP4, N12, N32, N33, N34, T7, TP2, TP13 | None | 212 | None | Forbidden | 100 kg | D | 12, 40 |
| Chloroacetyl chloride | 6.1 | UN1752 | I | 6.1, 8 | 2, A3, A6, A7, B3, B8, B9, B14, B32, B74, B77, N34, N43, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Chloroanilines, liquid | 6.1 | UN2019 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| Chloroanilines, solid | 6.1 | UN2018 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | |
| Chloroanisidines | 6.1 | UN2233 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| Chlorobenzene | 3 | UN1134 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| <i>Chlorobenzol, see Chlorobenzene.</i> | | | | | | | | | | | | |
| Chlorobenzotrifluorides | 3 | UN2234 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 |
| Chlorobenzyl chlorides | 6.1 | UN2235 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | |
| Chlorobutanes | 3 | UN1127 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| Chlorocresols, liquid | 6.1 | UN2669 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 12 |
| Chlorocresols, solid | 6.1 | UN2669 | II | 6.1 | IB8, IP2, IP3, T7 | None | 212 | 242 | 25 kg | 100 kg | A | 12 |
| Chlorodifluorobromomethane or Refrigerant gas R 12B1. | 2.2 | UN1974 | | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | |
| Chlorodifluoromethane and chloropentafluoroethane mixture or Refrigerant gas R 502 with fixed boiling point, with approximately 49 percent chlorodifluoromethane. | 2.2 | UN1973 | | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | |
| Chlorodifluoromethane or Refrigerant gas R 22. | 2.2 | UN1018 | | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | |
| + Chlorodinitrobenzenes, liquid | 6.1 | UN1577 | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | 91 |
| + Chlorodinitrobenzenes, solid | 6.1 | UN1577 | II | 6.1 | IB8, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | 91 |
| 2-Chloroethanal | 6.1 | UN2232 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Chloroform | 6.1 | UN1888 | III | 6.1 | IB3, N36, T7, TP2 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| G Chloroformates, toxic, corrosive, flammable, n.o.s.. | 6.1 | UN2742 | II | 6.1, 8, 3. | 5, IB1, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | 12, 13, 21, 25, 40, 100 |
| G Chloroformates, toxic, corrosive, n.o.s.. | 6.1 | UN3277 | II | 6.1, 8 | IB2, T8, TP2, TP13, TP28 | None | 202 | 243 | 1 L | 30 L | A | 12, 13, 25, 40 |
| Chloromethyl chloroformate | 6.1 | UN2745 | II | 6.1, 8 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | A | 12, 13, 21, 25, 40, 100 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|---|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Chloromethyl ethyl ether | 3 | UN2354 | II | 3, 6.1 | IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | Chloronitroanilines | 6.1 | UN2237 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| + | Chloronitrobenzene, <i>ortho</i> , <i>liquid</i> | 6.1 | UN1578 | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| + | Chloronitrobenzenes <i>meta</i> or <i>para</i> , <i>solid</i> . | 6.1 | UN1578 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Chloronitrotoluenes, <i>liquid</i> | 6.1 | UN2433 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Chloronitrotoluenes, <i>solid</i> | 6.1 | UN2433 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Chloropentafluoroethane or Re- frigerant gas R 115. | 2.2 | UN1020 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Chlorophenolates, <i>liquid</i> or Phenolates, <i>liquid</i> . | 8 | UN2904 | III | 8 | IB3 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Chlorophenolates, <i>solid</i> or Phenolates, <i>solid</i> . | 8 | UN2905 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Chlorophenols, <i>liquid</i> | 6.1 | UN2021 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Chlorophenols, <i>solid</i> | 6.1 | UN2020 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Chlorophenyltrichlorosilane | 8 | UN1753 | II | 8 | A7, B2, B6, IB2, N34, T7, TP2 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| + | Chloropicrin | 6.1 | UN1580 | I | 6.1 | 2, B7, B9, B14, B32, B46, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | Chloropicrin and methyl bromide mixtures. | 2.3 | UN1581 | ..... | 2.3 | 2, B9, B14, T50 | None | 193 | 314, 315. | Forbidden | Forbidden | D | 25, 40 |
| | Chloropicrin and methyl chloride mixtures. | 2.3 | UN1582 | ..... | 2.3 | 2, T50 | None | 193 | 245 | Forbidden | Forbidden | D | 25, 40 |
| | <i>Chloropicrin mixture, flammable (pressure not exceeding 14.7 psia at 115 degrees F flash point below 100 degrees F) see Toxic liquids, flammable, etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Chloropicrin mixtures, n.o.s. | 6.1 | UN1583 | I | 6.1 | 5 | None | 201 | 243 | Forbidden | Forbidden | C | 40 |
|  | ..... | ..... | ..... | II | 6.1 | IB2 | None | 202 | 243 | Forbidden | Forbidden | C | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB3 | 153 | 203 | 241 | Forbidden | Forbidden | C | 40 |

| | | | | | | | | | | | | | |
|---|---|-----------|--------|-----|------------|--|-----------|-----------|-----------|-----------|-----------|---|---------------------|
| D | Chloropivaloyl chloride | 6.1 | NA9263 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | B | 40 |
| | Chloroplatinic acid, solid | 8 | UN2507 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Chloroprene, stabilized | 3 | UN1991 | I | 3, 6.1 | B57, T14, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | D | 40 |
| | <i>Chloroprene, uninhibited</i> | Forbidden | | | | | | | | | | | |
| | 1-Chloropropane | 3 | UN1278 | II | 3 | IB2, N34, T7, TP2 | None | 202 | 242 | Forbidden | 60 L | E | ..... |
| | 2-Chloropropane | 3 | UN2356 | I | 3 | N36, T11, TP2, TP13 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | 3-Chloropropanol-1 | 6.1 | UN2849 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | 2-Chloropropene | 3 | UN2456 | I | 3 | A3, N36, T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | 2-Chloropropionic acid | 8 | UN2511 | III | 8 | IB3, T4, TP2 | 154 | 203 | 241 | 5 L | 60 L | A | 8 |
| | 2-Chloropyridine | 6.1 | UN2822 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| | Chlorosilanes, corrosive, flammable, n.o.s. .. | 8 | UN2986 | II | 8, 3 | IB2, T11, TP2, TP27 | None | 202 | 243 | 1 L | 30 L | C | 40 |
| | Chlorosilanes, corrosive, n.o.s. ... | 8 | UN2987 | II | 8 | B2, IB2, T14, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | Chlorosilanes, flammable, corrosive, n.o.s. .. | 3 | UN2985 | II | 3, 8 | IB1, T11, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 5 L | B | 40 |
| | Chlorosilanes, toxic, corrosive, n.o.s. .. | 6.1 | UN3361 | II | 6.1, 8 | IB1, T11, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | C | 40 |
| | Chlorosilanes, toxic, corrosive, flammable, n.o.s. .. | 6.1 | UN3362 | II | 6.1, 3, 8 | IB1, T11, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | C | 40, 125 |
| | Chlorosilanes, water-reactive, flammable, corrosive, n.o.s. .. | 4.3 | UN2988 | I | 4.3, 3, 8 | A2, T10, TP2, TP7, TP13 | None | 201 | 244 | Forbidden | 1 L | D | 21, 28, 40, 49, 100 |
| + | Chlorosulfonic acid (<i>with or without sulfur trioxide</i>) .. | 8 | UN1754 | I | 8, 6.1 | 2, A3, A6, A10, B9, B10, B14, B32, B74, T20, TP2, TP12, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | 40 |
| | Chlorotoluenes | 3 | UN2238 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Chlorotoluidines <i>liquid</i> | 6.1 | UN2239 | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Chlorotoluidines <i>solid</i> | 6.1 | UN2239 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Chlorotrifluoromethane and trifluoromethane azeotropic mixture or Refrigerant gas R 503 with approximately 60 percent chlorotrifluoromethane. | 2.2 | UN2599 | | 2.2 | | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Chlorotrifluoromethane or Refrigerant gas R 13. | 2.2 | UN1022 | | 2.2 | | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Chromic acid solution | 8 | UN1755 | II | 8 | B2, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
|  | ..... |  |  | III | 8 | IB3, T4, TP1, TP12 | 154 | 203 | 241 | 5 L | 60 L | C | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|---|--|-------------------------------------|---------------|------------------------|---|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | <i>Chromic anhydride, see</i> Chromium trioxide, anhydrous. | | | | | | | | | | | | |
| | Chromic fluoride, solid | 8 | UN1756 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | 26 |
| | Chromic fluoride, solution | 8 | UN1757 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | |
|  | ..... |  |  | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | |
| | Chromium nitrate | 5.1 | UN2720 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| | Chromium oxychloride | 8 | UN1758 | I | 8 | A3, A6, A7, B10, N34, T10, TP2, TP12 | None | 201 | 243 | 0.5 L | 2.5 L | C | 40, 66, 74, 89, 90 |
| | Chromium trioxide, anhydrous ... | 5.1 | UN1463 | II | 5.1, 8 | IB8, IP4 | None | 212 | 242 | 5 kg | 25 kg | A | |
| | Chromosulfuric acid | 8 | UN2240 | I | 8 | A3, A6, A7, B4, B6, N34, T10, TP2, TP12, TP13 | None | 201 | 243 | 0.5 L | 2.5 L | B | 40, 66, 74, 89, 90 |
| | <i>Chromyl chloride, see</i> Chromium oxychloride. | | | | | | | | | | | | |
| | <i>Cigar and cigarette lighters, charged with fuel, see</i> Lighters or Lighter refills containing flammable gas | | | | | | | | | | | | |
| | Coal briquettes, hot | Forbidden | | | | | | | | | | | |
| | Coal gas, compressed | 2.3 | UN1023 | | 2.3, 2.1. | 3 | None | 302 | 314, 315. | Forbidden | 25 kg | D | 40 |
| | Coal tar distillates, flammable | 3 | UN1136 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
|  | ..... |  |  | III | 3 | B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | <i>Coal tar dye, corrosive, liquid, n.o.s., see</i> Dyes, liquid or solid, n.o.s. or Dye intermediates, liquid or solid, corrosive, n.o.s.. | | | | | | | | | | | | |
| | Coating solution (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining). | 3 | UN1139 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
|  | ..... |  |  | II | 3 | IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
|  | ..... |  |  | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|-----|---|-------------|--------|-------|------|------------------------------|-----------|-----------|-----------|-----------|-----------|----|-------|
| | Cobalt naphthenates, powder | 4.1 | UN2001 | III | 4.1 | A19, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Cobalt resinate, precipitated | 4.1 | UN1318 | III | 4.1 | A1, A19, IB6 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | <i>Coke, hot</i> | Forbidden | | | | | | | | | | | |
| | <i>Collodion, see Nitrocellulose etc</i> | | | | | | | | | | | | |
| D G | Combustible liquid, n.o.s. | Combustible | NA1993 | III | None | IB3,T1, T4, TP1 | 150 | 203 | 241 | 60 L | 220 L | A | ..... |
| G | Components, explosive train, n.o.s.. | 1.2B | UN0382 | II | 1.2B | 101 | None | 62 | None | Forbidden | Forbidden | 11 | ..... |
| G | Components, explosive train, n.o.s.. | 1.4B | UN0383 | II | 1.4B | 101 | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| G | Components, explosive train, n.o.s.. | 1.4S | UN0384 | II | 1.4S | 101 | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| G | Components, explosive train, n.o.s.. | 1.1B | UN0461 | II | 1.1B | 101 | None | 62 | None | Forbidden | Forbidden | 11 | ..... |
| D G | <i>Composition B, see Hexolite, etc</i> | | | | | | | | | | | | |
| D G | Compounds, cleaning liquid | 8 | NA1760 | I | 8 | A7, B10, T14, TP2, TP9, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B | 40 |
|  | ..... |  |  | II | 8 | B2, IB2, N37, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | III | 8 | IB3, N37, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A | 40 |
| D G | Compounds, cleaning liquid | 3 | NA1993 | I | 3 | T11, TP1, TP9 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
|  | ..... |  |  | II | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... |  |  | III | 3 | B1, B52, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| D G | Compounds, tree killing, liquid or Compounds, weed killing, liquid. | 8 | NA1760 | I | 8 | A7, B10, T14, TP2, TP9, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B | 40 |
|  | ..... |  |  | II | 8 | B2, IB2, N37, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | III | 8 | IB3, N37, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A | 40 |
| D G | Compounds, tree killing, liquid or Compounds, weed killing, liquid. | 3 | NA1993 | I | 3 | T11, TP1, TP9 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
|  | ..... |  |  | II | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... |  |  | III | 3 | B1, B52, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| D G | Compounds, tree killing, liquid or Compounds, weed killing, liquid. | 6.1 | NA2810 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| G | Compressed gas, flammable, n.o.s.. | 2.1 | UN1954 | ..... | 2.1 | | 306 | 302, 305. | 314, 315. | Forbidden | 150 kg | D | 40 |
| G | Compressed gas, n.o.s. | 2.2 | UN1956 | ..... | 2.2 | | 306, 307. | 302, 305. | 314, 315. | 75 kg | 150 kg | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|--|----------------------------|----------------------------|-------|--------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Compressed gas, oxidizing, n.o.s.. | 2.2 | UN3156 | ..... | 2.2, 5.1. | | 306 | 302 | 314, 315. | 75 kg | 150 kg | D | ..... |
| GI | Compressed gas, toxic, corro- sive, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3304 | ..... | 2.3, 8 | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| GI | Compressed gas, toxic, corro- sive, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3304 | ..... | 2.3, 8 | 2, B9, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Compressed gas, toxic, corro- sive, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3304 | ..... | 2.3, 8 | 3, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Compressed gas, toxic, corro- sive, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3304 | ..... | 2.3, 8 | 4 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Compressed gas, toxic, flam- mable, corrosive, n.o.s. <i>Inha- lation Hazard Zone A.</i> | 2.3 | UN3305 | ..... | 2.3, 2.1, 8. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 17, 40 |
| GI | Compressed gas, toxic, flam- mable, corrosive, n.o.s. <i>Inha- lation Hazard Zone B.</i> | 2.3 | UN3305 | ..... | 2.3, 2.1, 8. | 2, B9, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| GI | Compressed gas, toxic, flam- mable, corrosive, n.o.s. <i>Inha- lation Hazard Zone C.</i> | 2.3 | UN3305 | ..... | 2.3, 2.1, 8. | 3, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| GI | Compressed gas, toxic, flam- mable, corrosive, n.o.s. <i>Inha- lation Hazard Zone D.</i> | 2.3 | UN3305 | ..... | 2.3, 2.1, 8. | 4 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| G | Compressed gas, toxic, flam- mable, n.o.s. <i>Inhalation haz- ard Zone A.</i> | 2.3 | UN1953 | ..... | 2.3, 2.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| G | Compressed gas, toxic, flam- mable, n.o.s. <i>Inhalation haz- ard Zone B.</i> | 2.3 | UN1953 | ..... | 2.3, 2.1. | 2, B9, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Compressed gas, toxic, flam- mable, n.o.s. <i>Inhalation Haz- ard Zone C.</i> | 2.3 | UN1953 | ..... | 2.3, 2.1. | 3, B14 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Compressed gas, toxic, flam- mable, n.o.s. <i>Inhalation Haz- ard Zone D.</i> | 2.3 | UN1953 | ..... | 2.3, 2.1. | 4 | None | 302, 305. | 314, 315. | Forbidden | Forbidden | D | 40 |

| | | | | | | | | | | | | | | | | | |
|-----|--|-----------|--------|-------|--------------|--------|------------|----------------------|-----------|-------|-----------|-------|-------------|-------------|-----------|------------|-------------------|
| G | Compressed gas, toxic, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN1955 | ..... | 2.3 | ..... | 1 | None | 192 | ..... | 245 | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN1955 | ..... | 2.3 | ..... | 2, B9, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN1955 | ..... | 2.3 | ..... | 3, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN1955 | ..... | 2.3 | ..... | 4 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| G I | Compressed gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3306 | ..... | 2.3, 5.1, 8. | ..... | 1 | None | 192 | ..... | 244 | ..... | Forbidden | Forbidden | D | 40, 89, 90 | |
| GI | Compressed gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3306 | ..... | 2.3, 5.1, 8. | ..... | 2, B9, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40, 89, 90 | |
| GI | Compressed gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3306 | ..... | 2.3, 5.1, 8. | ..... | 3, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40, 89, 90 | |
| G I | Compressed gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3306 | ..... | 2.3, 5.1, 8. | ..... | 4 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40, 89, 90 | |
| G | Compressed gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3303 | ..... | 2.3, 5.1. | ..... | 1 | None | 192 | ..... | 245 | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3303 | ..... | 2.3, 5.1. | ..... | 2, B9, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3303 | ..... | 2.3, 5.1. | ..... | 3, B14 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| G | Compressed gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3303 | ..... | 2.3, 5.1. | ..... | 4 | None | 302, 305. | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 | |
| D | Consumer commodity | ORM-D |  | ..... | None | ..... |  | 156, 306. | 156, 306. | ..... | None | ..... | 30 kg gross | 30 kg gross | A | ..... |  |
| | Contrivances, water-activated, with burster, expelling charge or propelling charge. | 1.2L | UN0248 | | II | 1.2L | | 101 | None | 62 | | None | | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| | Contrivances, water-activated, with burster, expelling charge or propelling charge. | 1.3L | UN0249 | | II | 1.3L | | 101 | None | 62 | | None | | Forbidden | Forbidden | 08 | 8E, 14E, 15E, 17E |
| | Copper acetoarsenite | 6.1 | UN1585 | | II | 6.1 | | IB8, IP2, IP4 | None | 212 | | 242 | | 25 kg | 100 kg | A | |
| | Copper acetylde | Forbidden | | | | | | | | | | | | | | | |
| | Copper amine azide | Forbidden | | | | | | | | | | | | | | | |
| | Copper arsenite | 6.1 | UN1586 | | II | 6.1 | | IB8, IP2, IP4 | None | 212 | | 242 | | 25 kg | 100 kg | A | |
| | Copper based pesticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 3 | UN2776 | | I | 3, 6.1 | | T14, TP2, TP13, TP27 | None | 201 | | 243 | | Forbidden | 30 L | B | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|--|---|--|-------------------------------------|---------------|------------------------|--|-----------------------------|----------------------|------------------|-------------------------------------|----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| A W | ..... | ..... | UN3010 | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Copper based pesticides, liquid, toxic. | 6.1 | UN3010 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Copper based pesticides, liquid, toxic, flammable flash point not less than 23 degrees C. | 6.1 | UN3009 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1, 3 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Copper based pesticides, solid, toxic. | 6.1 | UN2775 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
|  | ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Copper chlorate | 5.1 | UN2721 | II | 5.1 | A1, IB8, IP2, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Copper chloride | 8 | UN2802 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Copper cyanide | 6.1 | UN1587 | II | 6.1 | IB8, IP2, IP4 | 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 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Copra | 4.2 | UN1363 | III | 4.2 | IB8, IP3, IP6 | None | 213 | 241 | Forbidden | Forbidden | A | 13, 19, 48, 119 | |
| Cord, detonating, flexible | 1.1D | UN0065 | II | 1.1D .. | 102 | 63(a) | 62 | None | Forbidden | Forbidden | 07 | ..... |  |
| Cord, detonating, flexible | 1.4D | UN0289 | II | 1.4D .. | ..... | None | 62 | None | Forbidden | 75 kg | 06 | ..... |  |
| Cord detonating or Fuse deto-nating metal clad. | 1.2D | UN0102 | II | 1.2D .. | ..... | None | 62 | None | Forbidden | Forbidden | 07 | ..... |  |
| Cord, detonating or Fuse, deto-nating metal clad. | 1.1D | UN0290 | II | 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 07 | ..... |  |
| Cord, detonating, mild effect or Fuse, detonating, mild effect metal clad. | 1.4D | UN0104 | II | 1.4D .. | ..... | None | 62 | None | Forbidden | 75 kg | 06 | ..... |  |

| | | | | | | | | | | | | |
|---|--|------|--------|-----|-----------|-------------------------------|-----------|-----------|-----------|-----------|-------|----------|
| | Cord, igniter | 1.4G | UN0066 | II | 1.4G .. | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | <i>Cordeau detonant fuse, see Cord, detonating, etc; Cord, detonating, flexible.</i> |  |  |  |  |  |  |  |  |  |  | ..... |
| G | <i>Corдите, see Powder, smokeless</i> |  |  |  |  |  |  |  |  |  |  | ..... |
| | Corrosive liquid, acidic, inorganic, n.o.s.. | 8 | UN3264 | I | 8 | B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B 40 |
| | | | | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A 40 |
| G | Corrosive liquid, acidic, organic, n.o.s.. | 8 | UN3265 | I | 8 | B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B 40 |
| | | | | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A 40 |
| G | Corrosive liquid, basic, inorganic, n.o.s.. | 8 | UN3266 | I | 8 | B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B 40 |
| | | | | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A 40 |
| G | Corrosive liquid, basic, organic, n.o.s.. | 8 | UN3267 | I | 8 | B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B 40 |
| | | | | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A 40 |
| G | Corrosive liquid, self-heating, n.o.s.. | 8 | UN3301 | I | 8, 4.2 | B10 | None | 201 | 243 | 0.5 L | 2.5 L | D |
| | | | | II | 8, 4.2 | B2, IB1 | 154 | 202 | 242 | 1 L | 30 L | D |
| G | Corrosive liquids, flammable, n.o.s.. | 8 | UN2920 | I | 8, 3 | B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | C 25, 40 |
| | | | | II | 8, 3 | B2, IB2, T11, TP2, TP27 | None | 202 | 243 | 1 L | 30 L | C 25, 40 |
| G | Corrosive liquids, n.o.s. | 8 | UN1760 | I | 8 | A7, B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8 | B2, IB2, T11, TP2, TP27 | 154 | 202 | 242 | 1 L | 30 L | B 40 |
| | | | | III | 8 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | A 40 |
| G | Corrosive liquids, oxidizing, n.o.s.. | 8 | UN3093 | I | 8, 5.1 | | None | 201 | 243 | Forbidden | 2.5 L | C 89 |
| | | | | II | 8, 5.1 | IB2 | None | 202 | 243 | 1 L | 30 L | C 89 |
| G | Corrosive liquids, toxic, n.o.s. | 8 | UN2922 | I | 8, 6.1 | A7, B10, T14, TP2, TP13, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B 40 |
| | | | | II | 8, 6.1 | B3, IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | B 40 |
| | | | | III | 8, 6.1 | IB3, T7, TP1, TP28 | 154 | 203 | 241 | 5 L | 60 L | B 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Corrosive liquids, water-reactive, n.o.s.. | 8 | UN3094 | I | 8, 4.3 | | None | 201 | 243 | Forbidden | 1 L | E | ..... |
| G | Corrosive solid, acidic, inor- ganic, n.o.s.. | 8 | UN3260 | I | 8, 4.3 | IB7, IP1 | None | 202 | 243 | 1 L | 5 L | E | ..... |
| | | | | | 8, | | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
| | | | | II | 8, | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | B | ..... |
| | | | | III | 8, | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| G | Corrosive solid, acidic, organic, n.o.s.. | 8 | UN3261 | I | 8, | IB7, IP1 | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
| | | | | II | 8, | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | B | ..... |
| | | | | III | 8, | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| G | Corrosive solid, basic, inorganic, n.o.s.. | 8 | UN3262 | I | 8, | IB7, IP1 | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
| | | | | II | 8, | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | B | ..... |
| | | | | III | 8, | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| G | Corrosive solid, basic, organic, n.o.s.. | 8 | UN3263 | I | 8, | IB7, IP1 | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
| | | | | II | 8, | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | B | ..... |
| | | | | III | 8, | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| G | Corrosive solids, flammable, n.o.s.. | 8 | UN2921 | I | 8, 4.1 | IB6 | None | 211 | 242 | 1 kg | 25 kg | B | 12, 25 |
| | | | | II | 8, 4.1 | IB8, IP2, IP4 | None | 212 | 242 | 15 kg | 50 kg | B | 12, 25 |
| | | | | I | 8, | IB7, IP1 | None | 211 | 242 | 1 kg | 25 kg | B | ..... |
| | | | | II | 8, | 128, IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| G | Corrosive solids, oxidizing, n.o.s. | 8 | UN3084 | III | 8, | 128, IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | | | | I | 8, 5.1 | | None | 211 | 242 | 1 kg | 25 kg | C | ..... |
| | | | | II | 8, 5.1 | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | C | ..... |
| G | Corrosive solids, self-heating, n.o.s.. | 8 | UN3095 | I | 8, 4.2 | | None | 211 | 243 | 1 kg | 25 kg | C | ..... |
| | | | | II | 8, 4.2 | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | C | ..... |
| | | | | I | 8, 6.1 | IB7 | None | 211 | 242 | 1 kg | 25 kg | B | 40 |
| | | | | II | 8, 6.1 | IB8, IP2, IP4 | None | 212 | 240 | 15 kg | 50 kg | B | 40 |
| | | | | III | 8, 6.1 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | B | 40, 95 |
| G | Corrosive solids, water-reactive, n.o.s.. | 8 | UN3096 | I | 8, 4.3 | IB4, IP1 | None | 211 | 243 | 1 kg | 25 kg | D | ..... |
| | | | | II | 8, 4.3 | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | D | ..... |
| D W | Cotton | 9 | NA1365 | ..... | 9 | 137, IB8, IP2, IP4, W41 | None | None | None | No limit | No limit | A | ..... |
| A W | Cotton waste, oily | 4.2 | UN1364 | III | 4.2 | IB8, IP6 | None | 213 | None | Forbidden | Forbidden | A | 54 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|--|--|--------|--------|-----------|------------------------------|--|-----------|-----------|-----------|-----------|-----------|--------|-------|
| A I W | Cotton, wet | 4.2 | UN1365 | III | 4.2 | IB8, IP6 | None | 204 | 241 | Forbidden | Forbidden | A | ..... |
| | Coumarin derivative pesticides, liquid, flammable, toxic, <i>flash point less than 23 degrees C.</i> | 3 | UN3024 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| | | | | | | | | | | | | | |
| | Coumarin derivative pesticides, liquid, toxic. | 6.1 | UN3026 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 60 L | B | 40 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Coumarin derivative pesticides, liquid, toxic, flammable <i>flash point not less than 23 degrees C.</i> | 6.1 | UN3025 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Coumarin derivative pesticides, solid, toxic. | 6.1 | UN3027 | I | 6.1 | IB7, IP1, T14, TP2, TP27 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Cresols, liquid | 6.1 | UN2076 | II | 6.1, 8 | IB8, IP2, IP4, T7, TP2 | None | 202 | 243 | 1 L | 30 L | B | ..... |
| | Cresols, solid | 6.1 | UN2076 | II | 6.1, 8 | IB8, IP2, IP4, T7, TP2 | None | 202 | 243 | 1 L | 30 L | B | ..... |
| | Cresylic acid | 6.1 | UN2022 | II | 6.1, 8 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | B | ..... |
| | Crotonaldehyde, stabilized | 6.1 | UN1143 | I | 6.1, 3 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | B | 40 |
| | Crotonic acid <i>liquid</i> | 8 | UN2823 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | 12 |
| | Crotonic acid, <i>solid</i> | 8 | UN2823 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | 12 |
| | Crotonylene | 3 | UN1144 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| Cupriethylenediamine solution ... | 8 | UN1761 | II | 8, 6.1 | IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | ..... |  |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Cutters, cable, explosive | 1.4S | UN0070 | II | 1.4S ... | ..... | None | 62 | None | 25 kg | 100 kg | 05 | ..... |  |
| <i>Cyanide or cyanide mixtures, dry, see Cyanides, inorganic, solid, n.o.s..</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Cyanide solutions, n.o.s. | 6.1 | UN1935 | I | 6.1 | B37, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40, 52 | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|--|---|---------------|---------------------------|---|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|-------------------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | | | | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | A | 40, 52 |
| | | | | III | 6.1 | IB3, T7, TP2, TP13, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40, 52 |
| | Cyanides, inorganic, solid, n.o.s. | 6.1 | UN1588 | I | 6.1 | IB7, IP1, N74, N75 | None | 211 | 242 | 5 kg | 50 kg | A | 52 |
| | | | | II | 6.1 | IB8, IP2, IP4, N74, N75 | None | 212 | 242 | 25 kg | 100 kg | A | 52 |
| | | | | III | 6.1 | IB8, IP3, N74, N75 | 153 | 213 | 240 | 100 kg | 200 kg | A | 52 |
| | Cyanogen | 2.3 | UN1026 | | 2.3, 2.1. | 2 | None | 304 | 245 | Forbidden | Forbidden | D | 40 |
| | Cyanogen bromide | 6.1 | UN1889 | I | 6.1, 8 | A6, A8 | None | 211 | 242 | 1 kg | 15 kg | D | 40 |
| | Cyanogen chloride, stabilized | 2.3 | UN1589 | | 2.3, 8 | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| | Cyanuric chloride | 8 | UN2670 | II | 8 | IB8, IP2, IP4 | None | 212 | 240 | 15 kg | 50 kg | A | 12, 40 |
| | Cyanuric triazide | Forbidden | | | | | | | | | | | |
| | Cyclobutane | 2.1 | UN2601 | | 2.1 | | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Cyclobutyl chloroformate | 6.1 | UN2744 | II | 6.1, 8, 3. | IB1, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | A | 12, 13, 21, 25, 40, 100 |
| | 1,5,9-Cyclododecatriene | 6.1 | UN2518 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Cycloheptane | 3 | UN2241 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | Cycloheptatriene | 3 | UN2603 | II | 3, 6.1 | IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | Cycloheptene | 3 | UN2242 | II | 3 | B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Cyclohexane | 3 | UN1145 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | |
| | Cyclohexanone | 3 | UN1915 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | Cyclohexene | 3 | UN2256 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | |
| | Cyclohexenyltrichlorosilane | 8 | UN1762 | II | 8 | A7, B2, IB2, N34, T7, TP2, TP13 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| | Cyclohexyl acetate | 3 | UN2243 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | Cyclohexyl isocyanate | 6.1 | UN2488 | I | 6.1, 3 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | Cyclohexyl mercaptan | 3 | UN3054 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40, 95 |
| | Cyclohexylamine | 8 | UN2357 | II | 8, 3 | IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----------|--------|-----|------|---------------------------------|------|-----|-----------|-----------|-----------|----|----|
| Cyclohexyltrichlorosilane | 8 | UN1763 | II | 8 | A7, B2, IB2, N34, T7, TP2, TP13 | 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 | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Cyclooctatetraene | 3 | UN2358 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| Cyclopentane | 3 | UN1146 | II | 3 | IB2, T7, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | |
| Cyclopentane, methyl, see Methylcyclopentane. | | | | | | | | | | | | |
| Cyclopentanol | 3 | UN2244 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Cyclopentanone | 3 | UN2245 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| Cyclopentene | 3 | UN2246 | II | 3 | IB2, T7, TP2 | 150 | 202 | 242 | 5 L | 60L | E | 40 |
| Cyclopropane | 2.1 | UN1027 | | 2.1 | T50 | 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 | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |
| Cyclotetramethylenetetranitramine, wetted or HMX, wetted or Octogen, wetted with not less than 15 percent water, by mass. | 1.1D | UN0226 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Cyclotrimethylenetrinitramine and octogen, 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 | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Cyclotrimethylenetrinitramine, wetted or Cyclonite, wetted or Hexogen, wetted or RDX, wetted with not less than 15 percent water by mass. | 1.1D | UN0072 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Cymenes | 3 | UN2046 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Dangerous Goods in Machinery or Dangerous Goods in Apparatus. | 9 | UN3363 | ..... | ..... | 136 | None | 222 | None | No limit | No limit | A | ..... |
| | Decaborane | 4.1 | UN1868 | II | 4.1, 6.1. | A19, A20, IB6, IP2 | None | 212 | None | Forbidden | 50 kg | A | ..... |
| | Decahydronaphthalene | 3 | UN1147 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | n-Decane | 3 | UN2247 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Deflagrating metal salts of aromatic nitroderivatives, n.o.s.. | 1.3C | UN0132 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| | Delay electric igniter, see Igniters. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| | | | | | | | | | | | | | |
|---|-----------|--------|-------|-----------|------------------|------------------|-----------|-----------|-----------|-----------|----|----|--|
| Depth charges, see Charges, depth. | ..... |  |  |  |  |  |  |  |  |  |  |  |  |
| Detonating relays, see Detonators, etc. | ..... |  |  |  |  |  |  |  |  |  |  |  |  |
| Detonator assemblies, non-electric for blasting. | 1.1B | UN0360 | II | 1.1B ... | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Detonator assemblies, non-electric, for blasting. | 1.4B | UN0361 | II | 1.4B ... | 103 | 63(f), 63(g). | 62 | None | Forbidden | 75 kg | 06 | | |
| Detonator, assemblies, non-electric for blasting. | 1.4S | UN0500 | II | 1.4S ... | | 63(f), 63(g). | 62 | None | 25 kg | 100 kg | 05 | | |
| Detonators, electric, for blasting | 1.1B | UN0030 | II | 1.1B ... | | 63(f), 63(g). | 62 | None | Forbidden | Forbidden | 11 | | |
| Detonators, electric, for blasting | 1.4B | UN0255 | II | 1.4B ... | 103 | 63(f), 63(g). | 62 | None | Forbidden | 75 kg | 06 | | |
| Detonators, electric for blasting | 1.4S | UN0456 | II | 1.4S ... | | 63(f), 63(g). | 62 | None | 25 kg | 100 kg | 05 | | |
| Detonators for ammunition | 1.1B | UN0073 | II | 1.1B ... | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Detonators for ammunition | 1.2B | UN0364 | II | 1.2B ... | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Detonators for ammunition | 1.4B | UN0365 | II | 1.4B ... | 103 | None | 62 | None | Forbidden | 75 kg | 06 | | |
| Detonators for ammunition | 1.4S | UN0366 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | | |
| Detonators, non-electric, for blasting. | 1.1B | UN0029 | II | 1.1B ... | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Detonators, non-electric, for blasting. | 1.4B | UN0267 | II | 1.4B ... | 103 | 63(f), 63(g). | 62 | None | Forbidden | 75 kg | 06 | | |
| Detonators, non-electric, for blasting. | 1.4S | UN0455 | II | 1.4S ... | | 63(f), 63(g). | 62 | None | 25 kg | 100 kg | 5 | | |
| Deuterium, compressed | 2.1 | UN1957 | ..... | 2.1 | | 306 | 302 | None | Forbidden | 150 kg | E | 40 | |
| Devices, small, hydrocarbon gas powered or Hydrocarbon gas refills for small devices with release device. | 2.1 | UN3150 | ..... | 2.1 | | 306 | 304 | None | Forbidden | 150 kg | B | 40 | |
| Di-n-amylamine | 3 | UN2841 | III | 3, 6.1 | B1, IB3, T4, TP1 | 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 | 8, 3 | IB2, T7, TP2 | 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 | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|-----------------------------|----------------------|------------------|-------------------------------------|----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | <i>Di-2-ethylhexyl phosphoric acid, see Diisooctyl acid phosphate.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Di-(1-hydroxytetrazole) (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Di-(1-naphthoyl) peroxide</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>a,a'-Di-(nitroxy) methylether</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Di-(beta-nitroxyethyl) ammonium nitrate.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diacetone alcohol</i> | 3 | UN1148 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>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.</i> | Forbidden | | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Diacetyl, see Butanedione</i> ..... | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diacetyl peroxide, solid, or with more than 25 percent in solution.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diagnostic specimen</i> | 6.2 |  |  | ..... | A82 | 134 | 199 | None | 4 L or 4kg | 4L or 4 kg | A | 40 |
| | <i>Diallylamine</i> | 3 | UN2359 | II | 3, 6.1, 8. | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 21, 40, 100 |
| | <i>Diallylether</i> | 3 | UN2360 | II | 3, 6.1 | IB2, N12, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | <i>4,4'-Diaminodiphenyl methane</i> ... | 6.1 | UN2651 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | <i>p-Diazidobenzene</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>1,2-Diazoethane</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>1,1'-Diazoaminonaphthalene</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diazoaminotetrazole (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diazodinitrophenol (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diazodinitrophenol, wetted with not less than 40 percent water or mixture of alcohol and water, by mass.</i> | 1.1A | UN0074 | II | 1.1A ... | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | ..... |
| | <i>Diazodiphenylmethane</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Diazonium nitrates (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols | Hazardous materials descrip- tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--------------|--|----------------------------------|----------------------------------|-------|--------------------|---|-----------------------------|--------------|--------------|-----------------------------|--------------------------|-----------------------------|---------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | <i>1,2-Dichloroethane, see Ethyl- ene dichloride.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Dichloroethyl sulfide</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>1,2-Dichloroethylene</i> | 3 | UN1150 | II | 3 | IB2, T7, TP2 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>Dichlorodifluoromethane or Refrig- erant gas R21.</i> | 2.2 | UN1029 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | <i>Dichloroisocyanuric acid, dry or Dichloroisocyanuric acid salts.</i> | 5.1 | UN2465 | II | 5.1 | 28, IB8, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | A | 13 |
| | <i>Dichloroisopropyl ether</i> | 6.1 | UN2490 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | B | ..... |
| | <i>Dichloromethane</i> | 6.1 | UN1593 | III | 6.1 | IB3, N36, T7, TP2 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | <i>Dichloropentanes</i> | 3 | UN1152 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Dichlorophenyl isocyanates</i> | 6.1 | UN2250 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | B | 25, 40, 48 |
| | <i>Dichlorophenyltrichlorosilane</i> | 8 | UN1766 | II | 8 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| | <i>1,2-Dichloropropane</i> | 3 | UN1279 | II | 3 | IB2, N36, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>1,3-Dichloropropanol-2</i> | 6.1 | UN2750 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 12, 40 |
| | <i>Dichloropropene and propylene dichloride mixture, see 1,2- Dichloropropane.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Dichloropropenes</i> | 3 | UN2047 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>Dichlorosilane</i> | 2.3 | UN2189 | ..... | 2.3, 2.1, 8. | B1, IB3, T2, TP1 2, B9, B14 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>1,2-Dichloro-1,1,1,2,2- tetrafluoroethane or Refrig- erant gas R 114.</i> | 2.2 | UN1958 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | <i>Dichlorovinylchloroarsine</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Dicycloheptadiene, see Bicyclo [2.2.1] hepta-2,5-diene, sta- bilized.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Dicyclohexylamine</i> | 8 | UN2565 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Dicyclohexylammonium nitrite</i> | 4.1 | UN2687 | III | 4.1 | IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | 48 |
| | <i>Dicyclopentadiene</i> | 3 | UN2048 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Didymium nitrate</i> | 5.1 | UN1465 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|---|-----------|---------|-------|----------|---------------------------------|------|-----|-----------|-----------|-----------|----|--------|
| D | Diesel fuel | 3 | NA1993 | III | None | 144, B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| I | Diesel fuel | 3 | UN 1202 | III | 3 | 144, B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Diethanol nitrosamine dinitrate (dry).</i> | Forbidden | | | | | | | | | | | |
| | Diethoxymethane | 3 | UN2373 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | 3,3-Diethoxypropene | 3 | UN2374 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Diethyl carbonate | 3 | UN2366 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Diethyl cellosolve, see Ethylene glycol diethyl ether.</i> | | | | | | | | | | | | |
| | Diethyl ether or Ethyl ether | 3 | UN1155 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | 40 |
| | Diethyl ketone | 3 | UN1156 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>Diethyl peroxydicarbonate, with more than 27 percent in solution.</i> | Forbidden | | | | | | | | | | | |
| | Diethyl sulfate | 6.1 | UN1594 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | C | ..... |
| | Diethyl sulfide | 3 | UN2375 | II | 3 | IB2, T7, TP1, TP13 | None | 202 | 243 | 5 L | 60 L | E | ..... |
| | Diethylamine | 3 | UN1154 | II | 3, 8 | IB2, N34, T7, TP1 | None | 202 | 243 | 1 L | 5 L | E | 40 |
| | 2-Diethylaminoethanol | 8 | UN2686 | II | 8, 3 | B2, IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | ..... |
| | 3-Diethylamino-propylamine | 3 | UN2684 | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | ..... |
| + | N, N-Diethylaniline | 6.1 | UN2432 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Diethylbenzene | 3 | UN2049 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Diethyldichlorosilane | 8 | UN1767 | II | 8, 3 | A7, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 243 | Forbidden | 30 L | C | 40 |
| | <i>Diethylene glycol dinitrate</i> | Forbidden | | | | | | | | | | | |
| | <i>Diethyleneglycol dinitrate, desensitized with not less than 25 percent non-volatile water-insoluble phlegmatizer, by mass.</i> | 1.1D | UN0075 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 13 | 21E |
| | Diethylenetriamine | 8 | UN2079 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 40 |
| | N,N-Diethylethylenediamine | 8 | UN2685 | II | 8, 3 | IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | ..... |
| | <i>Diethylgold bromide</i> | Forbidden | | | | | | | | | | | |
| | Diethylthiophos-phoryl chloride .. | 8 | UN2751 | II | 8 | B2, IB2, T7, TP2 | None | 212 | 240 | 15 kg | 50 kg | D | 12, 40 |
| | Diethylzinc | 4.2 | UN1366 | I | 4.2, 4.3 | B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | 18 |
| | <i>Difluorochloroethanes, see 1-Chloro-1,1-difluoroethanes.</i> | | | | | | | | | | | | |
| | 1,1-Difluoroethane or Refrigerant gas R 152a. | 2.1 | UN1030 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | 1,1-Difluoroethylene or Refrigerant gas R 1132a. | 2.1 | UN1959 | ..... | 2.1 | | 306 | 304 | None | Forbidden | 150 kg | E | 40 |
| | Difluoromethane or Refrigerant gas R 32. | 2.1 | UN3252 | ..... | 2.1 | T50 | 306 | 302 | 314, 315. | Forbidden | 150 kg | D | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Difluorophosphoric acid, anhy- drous. | 8 | UN1768 | II | 8 | A6, A7, B2, IB2, N5, N34, T8, TP2, TP12 | None | 202 | 242 | 1 L | 30 L | A | 40 |
| | 2,3-Dihydropyran | 3 | UN2376 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>1,8-Dihydroxy-2,4,5,7- tetranitroanthraquinone (chrysamminic acid).</i> | Forbidden | | | | | | | | | | | |
| | <i>Diiodoacetylene</i> | Forbidden | | | | | | | | | | | |
| | Diisobutyl ketone | 3 | UN1157 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Diisobutylamine | 3 | UN2361 | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | ..... |
| | Diisobutylene, isomeric com- pounds. | 3 | UN2050 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Diisooctyl acid phosphate | 8 | UN1902 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Diisopropyl ether | 3 | UN1159 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | 40 |
| | Diisopropylamine | 3 | UN1158 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | ..... |
| | <i>Diisopropylbenzene hydroperoxide, with more than 72 percent in solution.</i> | Forbidden | | | | | | | | | | | |
| | Diketene, stabilized | 6.1 | UN2521 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40, 49 |
| | 1,2-Dimethoxyethane | 3 | UN2252 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | 1,1-Dimethoxyethane | 3 | UN2377 | II | 3 | IB2, T7, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Dimethyl carbonate | 3 | UN1161 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>Dimethyl chlorothiophosphate, see Dimethyl thiophosphoryl chloride.</i> | | | | | | | | | | | | |
| | <i>2,5-Dimethyl-2,5-dihydroperoxy hexane, with more than 82 percent with water.</i> | Forbidden | | | | | | | | | | | |
| | Dimethyl disulfide | 3 | UN2381 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | Dimethyl ether | 2.1 | UN1033 | | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Dimethyl-N-propylamine | 3 | UN2266 | II | 3, 8 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 5 L | B | 40 |

170

| | | | | | | | | | | | | |
|--|-----------|--------|-------|------------|---|-------|-------|-----------|-----------|-----------|-------|-----------------|
| Dimethyl sulfate | 6.1 | UN1595 | I | 6.1, 8 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Dimethyl sulfide | 3 | UN1164 | II | 3 | IB1, T7, TP2 | None | 202 | 242 | 5 L | 60 L | E | 40 |
| Dimethyl thiophosphoryl chloride | 6.1 | UN2267 | II | 6.1, 8 | IB2, T7, TP2 | None | 202 | 243 | 1 L | 30 L | B | 25 |
| Dimethylamine, anhydrous | 2.1 | UN1032 | ..... | 2.1 | T50 | None | 304 | 314, 315. | Forbidden | 150 kg | D | 40 |
| Dimethylamine solution | 3 | UN1160 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | ..... |
| 2-Dimethylaminoacetonitrile | 3 | UN2378 | II | 3, 6.1 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 60 L | A | 26, 40 |
| 2-Dimethylaminoethanol | 8 | UN2051 | II | 8, 3 | B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | ..... |
| 2-Dimethylaminoethyl acrylate ... | 6.1 | UN3302 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | D | 25 |
| 2-Dimethylaminoethyl methacrylate. | 6.1 | UN2522 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| N,N-Dimethylaniline | 6.1 | UN2253 | II | 6.1 | IB1, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| 2,3-Dimethylbutane | 3 | UN2457 | II | 3 | IB2, T7, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| 1,3-Dimethylbutylamine | 3 | UN2379 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | ..... |
| Dimethylcarbonyl chloride | 8 | UN2262 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 40 |
| Dimethylcyclohexanes | 3 | UN2263 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| N,N-Dimethylcyclo-hexylamine .. | 8 | UN2264 | II | 8, 3 | B2, IB2, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | 40 |
| Dimethyldichlorosilane | 3 | UN1162 | II | 3, 8 | B77, IB2, T7, TP2, TP13 | None | 202 | 243 | Forbidden | Forbidden | B | 40 |
| Dimethyldiethoxysilane | 3 | UN2380 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Dimethyldioxanes | 3 | UN2707 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| ..... | ..... | ..... | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| N,N-Dimethylformamide | 3 | UN2265 | III | 3 | B1, IB3, T2, TP2 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| <i>Dimethylhexane dihydroperoxide (dry).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Dimethylhydrazine, symmetrical | 6.1 | UN2382 | I | 6.1, 3 | 2, A7, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Dimethylhydrazine, unsymmetrical. | 6.1 | UN1163 | I | 6.1, 3, 8. | 2, B7, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 21, 38, 40, 100 |
| 2,2-Dimethylpropane | 2.1 | UN2044 | ..... | 2.1 | ..... | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| Dimethylzinc | 4.2 | UN1370 | I | 4.2, 4.3. | B11, B16, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | 18 |
| Dinitro-o-cresol, solid | 6.1 | UN1598 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Dinitro-o-cresol, solution | 6.1 | UN1598 | II | 6.1 | IB2, IP2, IP4, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| <i>1,3-Dinitro-5,5-dimethyl hydantoin.</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>Dinitro-7,8-dimethylglycoluril (dry).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>1,3-Dinitro-4,5-dinitrosobenzene</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|--|---|---------------|---------------------------|--|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | 1,4-Dinitro-1,1,4,4- tetramethylolbutanetetranitrate (dry). | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | 2,4-Dinitro-1,3,5- trimethylbenzene. | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | Dinitroanilines | 6.1 | UN1596 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | 91 |
| | Dinitrobenzenes, liquid | 6.1 | UN1597 | II | 6.1 | 11, IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 91 |
| | Dinitrobenzenes, solid | 6.1 | UN1597 | II | 6.1 | 11, IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 91 |
| | Dinitrochlorobenzene, see Chlorodinitrobenzene. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 1,2-Dinitroethane | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 1,1-Dinitroethane (dry) | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Dinitrogen tetroxide | 2.3 | UN1067 | ..... | 2.3, 5.1, 8. | 1, B7, B14, B45, B46, B61, B66, B67, B77, T50, TP21 | None | 336 | 314 | Forbidden | Forbidden | D | 40, 89, 90 |
| | Dinitroglycoluril or Dingu | 1.1D | UN0489 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Dinitromethane | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Dinitrophenol, dry or wetted with less than 15 percent water, by mass. | 1.1D | UN0076 | II | 1.1D, 6.1. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| | Dinitrophenol solutions | 6.1 | UN1599 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 36 |
| | Dinitrophenol, wetted with not less than 15 percent water, by mass. | 4.1 | UN1320 | I | 4.1, 6.1. | IB3, T4, TP1 23, A8, A19, A20, N41 | 153 | 203 | 241 | 60 L | 220 L | A | 36 |
| | Dinitrophenolates alkali metals, dry or wetted with less than 15 percent water, by mass. | 1.3C | UN0077 | II | 1.3C, 6.1. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| | Dinitrophenolates, wetted with not less than 15 percent water, by mass. | 4.1 | UN1321 | I | 4.1, 6.1. | 23, A8, A19, A20, N41 | None | 211 | None | 1 kg | 15 kg | E | 28, 36 |
| | Dinitropropylene glycol | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Dinitroresorcinol, dry or wetted with less than 15 percent water, by mass. | 1.1D | UN0078 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| | 2,4-Dinitroresorcinol (heavy metal salts of) (dry). | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|-----------|--------|-----|------|--|------|-----|------|-----------|-----------|----|--------|--|
| 4,6-Dinitroresorcinol (heavy metal salts of) (dry). | Forbidden | | | | | | | | | | | | |
| Dinitroresorcinol, wetted with not less than 15 percent water, by mass. | 4.1 | UN1322 | I | 4.1 | 23, A8, A19, A20, N41 | None | 211 | None | 1 kg | 15 kg | E | 28, 36 | |
| 3,5-Dinitrosalicylic acid (lead salt) (dry). | Forbidden | | | | | | | | | | | | |
| Dinitrosobenzene | 1.3C | UN0406 | II | 1.3C | | None | 62 | None | Forbidden | Forbidden | 10 | | |
| Dinitrosobenzylamidine and salts of (dry). | Forbidden | | | | | | | | | | | | |
| 2,2-Dinitrostilbene | Forbidden | | | | | | | | | | | | |
| Dinitrotoluenes, liquid | 6.1 | UN2038 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | | |
| Dinitrotoluenes, molten | 6.1 | UN1600 | II | 6.1 | T7, TP3 | None | 202 | 243 | Forbidden | Forbidden | C | | |
| Dinitrotoluenes, solid | 6.1 | UN2038 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | | |
| 1,9-Dinitroxy pentamethylene-2,4,6,8-tetramine (dry). | Forbidden | | | | | | | | | | | | |
| Dioxane | 3 | UN1165 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | | |
| Dioxolane | 3 | UN1166 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 | |
| Dipentene | 3 | UN2052 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Diphenylamine chloroarsine | 6.1 | UN1698 | I | 6.1 | | None | 201 | None | Forbidden | Forbidden | D | 40 | |
| Diphenylchloroarsine, liquid | 6.1 | UN1699 | I | 6.1 | A8, B14, B32, N33, N34, T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | D | 40 | |
| Diphenylchloroarsine, solid | 6.1 | UN1699 | I | 6.1 | A8, B14, B32, IB7, IP1, N33, N34 | None | 211 | 242 | Forbidden | 15 kg | D | 40 | |
| Diphenyldichlorosilane | 8 | UN1769 | II | 8 | A7, B2, IB2, N34, T7, TP2, TP13 | None | 202 | 242 | Forbidden | 30 L | C | 40 | |
| Diphenylmethyl bromide | 8 | UN1770 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | D | 40 | |
| Dipicryl sulfide, dry or wetted with less than 10 percent water, by mass. | 1.1D | UN0401 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | | |
| Dipicryl sulfide, wetted with not less than 10 percent water, by mass. | 4.1 | UN2852 | I | 4.1 | A2, N41 | None | 211 | None | Forbidden | 0.5 kg | D | 28 | |
| Dipicrylamine, see Hexanitrodiphenylamine. | | | | | | | | | | | | | |
| Dipropionyl peroxide, with more than 28 percent in solution. | Forbidden | | | | | | | | | | | | |
| Di-n-propyl ether | 3 | UN2384 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | | |
| Dipropyl ketone | 3 | UN2710 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Dipropylamine | 3 | UN2383 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | | |
| G Disinfectant, liquid, corrosive, n.o.s.. | 8 | UN1903 | I | 8 | A7, B10, T14, TP2, TP27 | None | 201 | 243 | 0.5 L | 2.5 L | B | | |
| G Disinfectants, liquid, corrosive n.o.s.. | 8 | UN1903 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | B | | |
| | | | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | 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 | 3 | IB1, T3, TP3, TP29 | None | None | 247 | Forbidden | Forbidden | A | | |
| Elevated temperature liquid, n.o.s., at or above 100 C and below its flash point (including molten metals, molten salts, etc.) | 9 | UN3257 | III | 9 | IB1, T3, TP3, TP29 | None | None | 247 | Forbidden | Forbidden | A | 85 | |
| Elevated temperature solid, n.o.s., at or above 240 C, see § 173.247(h)(4). | 9 | UN3258 | III | 9 | | 247(h)(4). | None | 247 | Forbidden | Forbidden | A | 85 | |
| Engines, internal combustion, flammable gas powered. | 9 | UN3166 | | 9 | 135 | 220 | 220 | 220 | Forbidden | No limit | A | | |
| Engines, internal combustion, flammable liquid powered. | 9 | UN3166 | | 9 | 135 | 220 | 220 | 220 | No limit | No limit | A | | |
| G Environmentally hazardous substances, liquid, n.o.s. | 9 | UN3082 | III | 9 | 8, 146, IB3, T4, TP1, TP29 | 155 | 203 | 241 | No limit | No limit | A | | |
| G Environmentally hazardous substances, solid, n.o.s. | 9 | UN3077 | III | 9 | 8, 146, B54, IB8, N20 | 155 | 213 | 240 | No limit | No limit | A | | |
| Epibromohydrin | 6.1 | UN2558 | I | 6.1, 3 | T14, TP2, TP13 | None | 201 | 243 | Forbidden | Forbidden | D | 40 | |
| + Epichlorohydrin | 6.1 | UN2023 | II | 6.1, 3 | IB2, T7, TP2, TP13 | None | 202 | 243 | 5 L | 60 L | A | 40 | |
| 1,2-Epoxy-3-ethoxypropane | 3 | UN2752 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Esters, n.o.s. | 3 | UN3272 | II | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | | |
| | | | III | 3 | B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Etching acid, liquid, n.o.s., see Hydrofluoric acid, solution etc. | | | | | | | | | | | | | |
| D Ethane | 2.1 | UN1035 | | 2.1 | | 306 | 304 | 302 | Forbidden | 150 kg | E | 40 | |
| Ethane-Propane mixture, refrigerated liquid. | 2.1 | NA1961 | | 2.1 | T75, TP5 | None | 316 | 314, 315. | Forbidden | Forbidden | D | 40 | |
| Ethane, refrigerated liquid | 2.1 | UN1961 | | 2.1 | T75, TP5 | 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 | 3 | 24, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | A | | |
| | | | III | 3 | 24, B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Ethanolamine or Ethanolamine solutions. | 8 | UN2491 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | | |
| Ether, see Diethyl ether | | | | | | | | | | | | | |
| Ethers, n.o.s. | 3 | UN3271 | II | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym- bols (1) | Hazardous materials descrip- tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-------------------------|--|---|---|---------------|---------------------------|---|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
|  | ..... | ..... | ..... | III | 3 | B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethyl acetate | 3 | UN1173 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Ethyl acrylate, stabilized | 3 | UN1917 | II | 3 | IB2, T4, TP1, TP13 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | Ethyl alcohol, see Ethanol ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Ethyl aldehyde, see Acetal- dehyde. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Ethyl amyl ketone | 3 | UN2271 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | N-Ethyl-N-benzylaniline | 6.1 | UN2274 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Ethyl borate | 3 | UN1176 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Ethyl bromide | 6.1 | UN1891 | II | 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 5 L | 60 L | B | 40, 85 |
| | Ethyl bromoacetate | 6.1 | UN1603 | II | 6.1, 3 | IB2, T7, TP2 | None | 202 | 243 | Forbidden | Forbidden | D | 40 |
| | Ethyl butyl ether | 3 | UN1179 | II | 3 | B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Ethyl butyrate | 3 | UN1180 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethyl chloride | 2.1 | UN1037 | ..... | 2.1 | B77, T50 | None | 322 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Ethyl chloroacetate | 6.1 | UN1181 | II | 6.1, 3 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | Ethyl chloroformate | 6.1 | UN1182 | I | 6.1, 3, 8. | 2, A3, A6, A7, B9, B14, B32, B74, N34, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 21, 40, 100 |
| | Ethyl 2-chloropropionate | 3 | UN2935 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| + | Ethyl chlorothioformate | 8 | UN2826 | II | 8, 6.1, 3. | 2, B9, B14, B32, B74, T20, TP2, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | A | 40 |
| | Ethyl crotonate | 3 | UN1862 | II | 3 | IB2, T4, TP2 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Ethyl ether, see Diethyl ether ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Ethyl fluoride or Refrigerant gas R161. | 2.1 | UN2453 | ..... | 2.1 ..... | ..... | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | Ethyl formate | 3 | UN1190 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | Ethyl hydroperoxide | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Ethyl isobutyrate | 3 | UN2385 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| + | Ethyl isocyanate | 3 | UN2481 | I | 3, 6.1 | 1, A7, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| | Ethyl lactate | 3 | UN1192 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |

| | | | | | | | | | | | | |
|---|-----------|--------|-------|------------|--|-------|-------|-----------|-----------|-----------|-------|---------------------|
| Ethyl mercaptan | 3 | UN2363 | I | 3 | T11, TP2, TP13 | None | 201 | 243 | Forbidden | 30 L | E | 95, 102 |
| Ethyl methacrylate, stabilized | 3 | UN2277 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Ethyl methyl ether | 2.1 | UN1039 | ..... | 2.1 | ..... | None | 201 | 314, 315. | Forbidden | 150 kg | B | 40 |
| Ethyl methyl ketone or Methyl ethyl ketone. | 3 | UN1193 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Ethyl nitrite solutions | 3 | UN1194 | I | 3, 6.1 | ..... | None | 201 | None | Forbidden | Forbidden | E | 40, 105 |
| Ethyl orthoformate | 3 | UN2524 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| Ethyl oxalate | 6.1 | UN2525 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| <i>Ethyl perchlorate</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| D Ethyl phosphonothioic dichloride, anhydrous. | 6.1 | NA2927 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| D Ethyl phosphonous dichloride, anhydrous <i>pyrophoric liquid</i> . | 6.1 | NA2845 | I | 6.1, 4.2. | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 18 |
| D Ethyl phosphorodichloridate | 6.1 | NA2927 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Ethyl propionate | 3 | UN1195 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Ethyl propyl ether | 3 | UN2615 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| <i>Ethyl silicate, see Tetraethyl silicate.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ethylacetylene, stabilized | 2.1 | UN2452 | ..... | 2.1 | ..... | None | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| Ethylamine | 2.1 | UN1036 | ..... | 2.1 | B77, T50 | 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 | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| N-Ethylaniline | 6.1 | UN2272 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| 2-Ethylaniline | 6.1 | UN2273 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| Ethylbenzene | 3 | UN1175 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| N-Ethylbenzyltoluidines liquid | 6.1 | UN2753 | III | 6.1 | IB3, T7, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| N-Ethylbenzyltoluidines solid | 6.1 | UN2753 | III | 6.1 | IB8, IP3, T7, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| 2-Ethylbutanol | 3 | UN2275 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| 2-Ethylbutyl acetate | 3 | UN1177 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| 2-Ethylbutyraldehyde | 3 | UN1178 | II | 3 | B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Ethylidichloroarsine | 6.1 | UN1892 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Ethylidichlorosilane | 4.3 | UN1183 | I | 4.3, 8, 3. | A2, A3, A7, N34, T10, TP2, TP7, TP13 | None | 201 | 244 | Forbidden | 1 L | D | 21, 28, 40, 49, 100 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|-----------------------------------|-----------------------------------|-----------|--------------------|---|-----------------------------|-----------|--------------|-----------------------------|-----------------------|--------------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Ethylene | 2.1 | UN1962 | ..... | 2.1 | 306 | 304 | 302 | Forbidde- n. | 150kg | E | 40 | ..... |
| | Ethylene, acetylene and propylene in mixture, 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 | ..... | 2.1 | T75, TP5 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| | Ethylene chlorohydrin | 6.1 | UN1135 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | <i>Ethylene diamine dperchlorate ..</i> | Forbidden | | | | | | | | | | | |
| | Ethylene dibromide | 6.1 | UN1605 | I | 6.1 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | <i>Ethylene dibromide and methyl bromide liquid mixtures, see Methyl bromide and ethylene dibromide, liquid mixtures.</i> | | | | | | | | | | | | |
| | Ethylene dichloride | 3 | UN1184 | II | 3, 6.1 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Ethylene glycol diethyl ether | 3 | UN1153 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | A | ..... |
| | Ethylene glycol diethyl ether | 3 | UN1153 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Ethylene glycol dinitrate</i> | Forbidden | | | | | | | | | | | |
| | Ethylene glycol monoethyl ether | 3 | UN1171 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethylene glycol monoethyl ether acetate. | 3 | UN1172 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethylene glycol monomethyl ether. | 3 | UN1188 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethylene glycol monomethyl ether acetate. | 3 | UN1189 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Ethylene oxide and carbon dioxide mixture with more than 87 percent ethylene oxide. | 2.3 | UN3300 | ..... | 2.3, 2.1. | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |

| | | | | | | | | | | | | | | | | |
|--|-----|--------|-------|-----------|-------|---|------|-------|-----|-------|-----------|-----------|-----------|-----------|-------|-------------------------|
| Ethylene oxide and carbon dioxide mixtures with more than 9 percent but not more than 87 percent ethylene oxide. | 2.1 | UN1041 | ..... | 2.1 | ..... | T50 | 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 | ..... | 2.2 | ..... |  | 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 | ..... | 2.2 | ..... | T50 | 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 | ..... | 2.2 | ..... | T50 | 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 | ..... | 2.2 | ..... | T50 | 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 | 3, 6.1 | | 5, A11, N4, N34, T14, TP2, TP7, TP13 | 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 | ..... | 2.2 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | 75 kg | 150 kg | A | ..... |  |
| Ethylene oxide or Ethylene oxide with nitrogen up to a total pressure of 1MPa (10 bar) at 50 degrees C. | 2.3 | UN1040 | ..... | 2.3, 2.1. | | 4, T50, TP20 | None | .... | 323 | ..... | 323 | ..... | Forbidden | 25 kg | D | 40 |
| Ethylene, refrigerated liquid (cryogenic liquid). | 2.1 | UN1038 | ..... | 2.1 | ..... | T75, TP5 | None | .... | 316 | ..... | 318, 319. | Forbidden | Forbidden | D | 40 | |
| Ethylenediamine | 8 | UN1604 | II | 8, 3 | .... | IB2, T7, TP2 | 154 | ..... | 202 | ..... | 243 | ..... | 1 L | 30 L | A | 40 |
| Ethyleneimine, stabilized | 6.1 | UN1185 | I | 6.1, 3 | | 1, B9, B14, B30, B72, B77, N25, N32, T22, TP2, TP13, TP38, TP44 | None | .... | 226 | ..... | 244 | ..... | Forbidden | Forbidden | D | 40 |
| <i>Ethylhexaldehyde, see Octyl aldehydes etc.</i> | | | | | | | | | | | | | | | | |
| 2-Ethylhexyl chloroformate | 6.1 | UN2748 | II | 6.1, 8 | | IB2, T7, TP2, TP13 | None | .... | 202 | ..... | 243 | ..... | 1 L | 30 L | A | 12, 13, 21, 25, 40, 100 |
| 2-Ethylhexylamine | 3 | UN2276 | III | 3, 8 | .... | B1, IB3, T4, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 5 L | 60 L | A | 40 |
| Ethylphenyldichlorosilane | 8 | UN2435 | II | 8 | ..... | A7, B2, IB2, N34, T7, TP2, TP13 | None | .... | 202 | ..... | 242 | ..... | Forbidden | 30 L | C | ..... |
| 1-Ethylpiperidine | 3 | UN2386 | II | 3, 8 | .... | IB2, T7, TP1 | None | .... | 202 | ..... | 243 | ..... | 1 L | 5 L | B | ..... |
| N-Ethyltoluidines | 6.1 | UN2754 | II | 6.1 | ..... | IB2, T7, TP2 | None | .... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|---|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Ethyltrichlorosilane | 3 | UN1196 | II | 3, 8 | A7, IB1, N34, T7, TP2, TP13 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| | <i>Etiologic agent, see Infectious substances, etc.</i> | | | | | | | | | | | | |
| | <i>Explosive articles, see Articles, explosive, n.o.s. etc.</i> | | | | | | | | | | | | |
| | Explosive, blasting, type A | 1.1D | UN0081 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | 21E |
| | Explosive, blasting, type B | 1.1D | UN0082 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |
| | Explosive, blasting, type B or Agent blasting, Type B. | 1.5D | UN0331 | II | 1.5D | 105, 106 | None | 62 | None | Forbidden | Forbidden | 10 | |
| | Explosive, blasting, type C | 1.1D | UN0083 | II | 1.1D | 123 | None | 62 | None | Forbidden | Forbidden | 10 | 22E |
| | Explosive, blasting, type D | 1.1D | UN0084 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |
| | Explosive, blasting, type E | 1.1D | UN0241 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | 19E |
| | Explosive, blasting, type E or Agent blasting, Type E. | 1.5D | UN0332 | II | 1.5D | 105, 106 | None | 62 | None | Forbidden | Forbidden | 10 | |
| | <i>Explosive, forbidden. See § 173.54.</i> | Forbidden | | | | | | | | | | | |
| | <i>Explosive substances, see Substances, explosive, n.o.s. etc.</i> | | | | | | | | | | | | |
| | <i>Explosives, slurry, see Explosive, blasting, type E.</i> | | | | | | | | | | | | |
| | <i>Explosives, water gels, see Explosive, blasting, type E.</i> | | | | | | | | | | | | |
| | Extracts, aromatic, liquid | 3 | UN1169 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Extracts, flavoring, liquid | 3 | UN1197 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | <i>Fabric with animal or vegetable oil, see Fibers or fabrics, etc.</i> | | | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | Ferric arsenate | 6.1 | UN1606 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Ferric arsenite | 6.1 | UN1607 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Ferric chloride, anhydrous | 8 | UN1773 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | |
| | Ferric chloride, solution | 8 | UN2582 | III | 8 | B15, IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | |
| | Ferric nitrate | 5.1 | UN1466 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| | Ferrocerium | 4.1 | UN1323 | II | 4.1 | 59, A19, IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | A | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Fissile radioactive materials, see</i> Radioactive material, fissile, n.o.s.. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Flammable compressed gas, see</i> Compressed or Liquefied gas, flammable, etc. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Flammable compressed gas</i> (small receptacles not fitted with a dispersion device, not refillable), see Receptacles, etc. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Flammable gas in lighters, see</i> Lighters or lighter refills, ciga- rettes, containing flammable gas. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| G | Flammable liquid, toxic, corro- sive, n.o.s.. | 3 | UN3286 | I | 3, 6.1, 8. | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 2.5 L | E | 21, 40, 100 |
|  | ..... | ..... | ..... | II | 3, 6.1, 8. | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 5 L | B | 21, 40, 100 |
| G | Flammable liquids, corrosive, n.o.s.. | 3 | UN2924 | I | 3, 8 | T14, TP2 | None | 201 | 243 | 0.5 L | 2.5 L | E | 40 |
|  | ..... | ..... | ..... | II | 3, 8 | IB2, T11, TP2, TP27 | None | 202 | 243 | 1 L | 5 L | B | 40 |
|  | ..... | ..... | ..... | III | 3, 8 | B1, IB3, T7, TP1, TP28 | 150 | 203 | 242 | 5 L | 60 L | A | 40 |
| G | Flammable liquids, n.o.s. | 3 | UN1993 | I | 3 | T11, TP1, TP27 | 150 | 201 | 243 | 1 L | 30 L | E | |
| G | Flammable liquids, toxic, n.o.s. .. | 3 | UN1992 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | E | 40 |
|  | ..... | ..... | ..... | II | 3, 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 3, 6.1 | B1, IB3, T7, TP1, TP28 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| G | Flammable solid, corrosive, inor- ganic, n.o.s.. | 4.1 | UN3180 | II | 4.1, 8 | A1, IB6, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | D | 40 |
|  | ..... | ..... | ..... | III | 4.1, 8 | A1, IB6 | 151 | 213 | 242 | 25 kg | 100 kg | D | 40 |
| G | Flammable solid, inorganic, n.o.s.. | 4.1 | UN3178 | II | 4.1 | A1, IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | B | ..... |
|  | ..... | ..... | ..... | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | B | ..... |

| | | | | | | | | | | | | | |
|---|--|------|--------|-------|----------------|----------------------------|------------|-----------|------------|-----------|-----------|----|------------|
| G | Flammable solid, organic, molten, n.o.s.. | 4.1 | UN3176 | II | 4.1 | IB1, T3, TP3, TP26 | 151 | 212 | 240 | Forbidden | Forbidden | C | ..... |
|  | ..... |  |  | III | 4.1 | IB1, T1, TP3, TP26 | 151 | 213 | 240 | Forbidden | Forbidden | C | ..... |
| G | Flammable solid, oxidizing, n.o.s.. | 4.1 | UN3097 | II | 4.1, 5.1, 5.1. | 131 | None | 214 | 214 | Forbidden | Forbidden | E | 40 |
|  | ..... |  |  | III | 4.1, 5.1. | 131 | None | 214 | 214 | Forbidden | Forbidden | D | 40 |
| G | Flammable solid, toxic, inorganic, n.o.s.. | 4.1 | UN3179 | II | 4.1, 6.1. | A1, IB6, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | B | 40 |
|  | ..... |  |  | III | 4.1, 6.1. | A1, IB6 | 151 | 213 | 242 | 25 kg | 100 kg | B | 40 |
| G | Flammable solids, corrosive, organic, n.o.s.. | 4.1 | UN2925 | II | 4.1, 8 | A1, IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | D | 40 |
|  | ..... |  |  | III | 4.1, 8 | A1, IB6 | 151 | 213 | 242 | 25 kg | 100 kg | D | 40 |
| G | Flammable solids, organic, n.o.s.. | 4.1 | UN1325 | II | 4.1 | A1, IB8, IP2, IP4, T3, TP1 | 151 | 212 | 240 | 15 kg | 50 kg | B | ..... |
|  | ..... |  |  | III | 4.1 | A1, IB8, IP3, T1, TP1 | 151 | 213 | 240 | 25 kg | 100 kg | B | ..... |
| G | Flammable solids, toxic, organic, n.o.s.. | 4.1 | UN2926 | II | 4.1, 6.1. | A1, IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | B | 40 |
|  | ..... |  |  | III | 4.1, 6.1. | A1, IB6 | 151 | 213 | 242 | 25 kg | 100 kg | B | 40 |
| | Flares, aerial | 1.3G | UN0093 | II | 1.3G .. | | None | 62 | None | Forbidden | 75 kg | 07 | ..... |
| | Flares, aerial | 1.4G | UN0403 | II | 1.4G .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Flares, aerial | 1.4S | UN0404 | II | 1.4S .. | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Flares, aerial | 1.1G | UN0420 | II | 1.1G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Flares, aerial | 1.2G | UN0421 | II | 1.2G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Flares, airplane, see Flares, aerial. | | | | | | | | | | | | |
| | Flares, signal, see Cartridges, signal. | | | | | | | | | | | | |
| | Flares, surface | 1.3G | UN0092 | II | 1.3G .. | | None | 62 | None | Forbidden | 75 kg | 07 | ..... |
| | Flares, surface | 1.1G | UN0418 | II | 1.1G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Flares, surface | 1.2G | UN0419 | II | 1.2G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Flares, water-activated, see Contrivances, water-activated, etc. | | | | | | | | | | | | |
| | Flash powder | 1.1G | UN0094 | II | 1.1G .. | | None | 62 | None | Forbidden | Forbidden | 15 | ..... |
| | Flash powder | 1.3G | UN0305 | II | 1.3G .. | | None | 62 | None | Forbidden | Forbidden | 15 | ..... |
| | Flue dusts, poisonous, see Arsenical dust. | | | | | | | | | | | | |
| | Fluoric acid, see Hydrofluoric acid, etc. | | | | | | | | | | | | |
| | Fluorine, compressed | 2.3 | UN1045 | ..... | 2.3, 5.1, 8. | 1 | None | 302 | None | Forbidden | Forbidden | D | 40, 89, 90 |
| | Fluoroacetic acid | 6.1 | UN2642 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 1 kg | 15 kg | E | ..... |
| | Fluoroanilines | 6.1 | UN2941 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Fluorobenzene | 3 | UN2387 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|-----------|------------|--------------------------|----------------------|----------------------|-------|
| | | | | | | | Excep-tions | Non-bulk | Bulk | Passenger aircraft/rail | Cargo air-craft only | Loca-tion | Other |
| | | | | | | | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Fluoroboric acid | 8 | UN1775 | II | 8 | A6, A7, B2, B15, IB2, N3, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| | Fluorophosphoric acid anhy-drous. | 8 | UN1776 | II | 8 | A6, A7, B2, IB2, N3, N34, T8, TP2, TP12 | None | 202 | 242 | 1 L | 30 L | A | ..... |
| | Fluorosilicates, n.o.s. | 6.1 | UN2856 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | Fluorosilicic acid | 8 | UN1778 | II | 8 | A6, A7, B2, B15, IB2, N3, N34, T8, TP2, TP12 | None | 202 | 242 | 1 L | 30 L | A | ..... |
| | Fluorosulfonic acid | 8 | UN1777 | I | 8 | A3, A6, A7, A10, B6, B10, N3, T10, TP2, TP12 | None | 201 | 243 | 0.5 L | 2.5 L | D | 40 |
| | Fluorotoluenes | 3 | UN2388 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| | <i>Forbidden materials. See § 173.21.</i> | Forbidden | | | | | | | | | | | |
| | Formaldehyde, solutions, flam-mable. | 3 | UN1198 | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | 40 |
| | Formaldehyde, solutions, <i>with not less than 25 percent form-aldehyde.</i> | 8 | UN2209 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Formalin, see Formaldehyde, solutions.</i> | | | | | | | | | | | | |
| | Formic acid | 8 | UN1779 | II | 8 | B2, B28, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 40 |
| | Fracturing devices, explosive, <i>without detonators for oil wells.</i> | 1.1D | UN0099 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Fuel, aviation, turbine engine | 3 | UN1863 | I | 3 | 144, T11, TP1, TP8 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | | | | II | 3 | 144, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | | | | III | 3 | 144, B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| D | Fuel Oil (No. 1, 2, 4, 5, or 6) | 3 | NA 1993 | III | 3 | 144, B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|--|-----------|--------|-----|----------|------------------|------|-----|------|-----------|-----------|----|--------|--|
| Fuel system components (including fuel control units (FCU), carburetors, fuel lines, fuel pumps) see Dangerous Goods in Apparatus or Dangerous Goods in Machinery. | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | |
| Fumaryl chloride | 8 | UN1780 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | C | 8, 40 | |
| Fumigated lading, see §§ 172.302(g), 173.9 and 176.76(h). | | | | | | | | | | | | | |
| Fumigated transport vehicle or freight container see 173.9. | | | | | | | | | | | | | |
| Furaldehydes | 6.1 | UN1199 | II | 6.1, 3 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | | |
| Furan | 3 | UN2389 | I | 3 | T12, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | E | 40 | |
| Furfuryl alcohol | 6.1 | UN2874 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 26, 74 | |
| Furfurylamine | 3 | UN2526 | III | 3, 8 | B1, IB3, T4, TP1 | 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 | 1.4G .. | | None | 62 | None | Forbidden | 75 kg | 06 | | |
| Fuse, non-detonating instantaneous or quickmatch. | 1.3G | UN0101 | II | 1.3G .. | | None | 62 | None | Forbidden | Forbidden | 07 | | |
| Fuse, safety | 1.4S | UN0105 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | | |
| Fusee (railway or highway) | 4.1 | NA1325 | II | 4.1 | | None | 184 | None | 15 kg | 50 kg | B | | |
| Fusel oil | 3 | UN1201 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | | |
| Fuses, tracer, see Tracers for ammunition. | | | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | | |
| Fuzes, combination, percussion and time, see Fuzes, detonating (UN0257, UN0367); Fuzes, igniting (UN0317, UN0368). | | | | | | | | | | | | | |
| Fuzes, detonating | 1.1B | UN0106 | II | 1.1B .. | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Fuzes, detonating | 1.2B | UN0107 | II | 1.2B .. | | None | 62 | None | Forbidden | Forbidden | 11 | | |
| Fuzes, detonating | 1.4B | UN0257 | II | 1.4B ... | 116 | None | 62 | None | Forbidden | 75 kg | 06 | | |
| Fuzes, detonating | 1.4S | UN0367 | II | 1.4S ... | 116 | None | 62 | None | 25 kg | 100 kg | 05 | | |
| Fuzes, detonating, with protective features. | 1.1D | UN0408 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 07 | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-----------|--------|-------|--------------|--------------------------|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Fuzes, detonating, <i>with protective features.</i> | 1.2D | UN0409 | II | 1.2D .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Fuzes, detonating, <i>with protective features.</i> | 1.4D | UN0410 | II | 1.4D .. | 116 | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Fuzes, igniting | 1.3G | UN0316 | II | 1.3G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Fuzes, igniting | 1.4G | UN0317 | II | 1.4G .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Fuzes, igniting | 1.4S | UN0368 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | <i>Galactsan trinitrate</i> | Forbidden | | | | | | | | | | | |
| | Gallium | 8 | UN2803 | III | 8 | | None | 162 | 240 | 20 kg | 20 kg | B | 48 |
| | Gas cartridges, (<i>flammable</i>) <i>without a release device, non-refillable.</i> | 2.1 | UN2037 | ..... | 2.1 | | 306 | 304 | None | 1 kg | 15 kg | B | 40 |
| | Gas generator assemblies (air- craft), <i>containing a non-flam- mable non-toxic gas and a propellant cartridge.</i> | 2.2 |  | ..... | 2.2 | | None | 335 | None | 75 kg | 150 kg | A | ..... |
| D | Gas identification set | 2.3 | NA9035 | ..... | 2.3 | 6 | None | 194 | None | Forbidden | Forbidden | D | ..... |
| | Gas oil | 3 | UN1202 | III | 3 | 144, B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| G | Gas, refrigerated liquid, flam- mable, n.o.s. (<i>cryogenic liquid</i>). | 2.1 | UN3312 | ..... | 2.1 | T75, TP5 | None | 316 | 318 | Forbidden | Forbidden | D | 40 |
| G | Gas, refrigerated liquid, n.o.s. (<i>cryogenic liquid</i>). | 2.2 | UN3158 | ..... | 2.2 | T75, TP5 | 320 | 316 | 318 | 50 kg | 500 kg | D | ..... |
| G | Gas, refrigerated liquid, oxidi- zing, n.o.s. (<i>cryogenic liquid</i>). | 2.2 | UN3311 | ..... | 2.2, 5.1. | T75, TP5 | 320 | 316 | 318 | Forbidden | Forbidden | D | ..... |
| | Gas sample, non-pressurized, flammable, n.o.s., <i>not refrig- erated liquid.</i> | 2.1 | UN3167 | ..... | 2.1 | | 306 | 302, 304. | None | 1 L | 5 L | D | ..... |
| | Gas sample, nonpressurized, toxic, flammable, n.o.s., <i>not refrigerated liquid.</i> | 2.3 | UN3168 | ..... | 2.3, 2.1. | 6 | 306 | 302 | None | Forbidden | 1 L | D | ..... |
| | Gas sample, nonpressurized, toxic, n.o.s., <i>not refrigerated liquid.</i> | 2.3 | UN3169 | ..... | 2.3 | 6 | 306 | 302, 304. | None | Forbidden | 1 L | D | ..... |
| D | Gasohol <i>gasoline mixed with ethyl alcohol, with not more than 20 percent alcohol.</i> | 3 | NA1203 | I | 3 | 144 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | Gasoline | 3 | UN1203 | II | 3 | 139, B33, B101, T8 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |

| | | | | | | | | | | | | |
|---|-----------|--------|-----------|--------------|------|-----|------|-----------|-----------|----|----|--|
| Gasoline, casinghead, see Gasoline. | | | | | | | | | | | | |
| Gelatine, blasting, see Explosive, blasting, type A. | | | | | | | | | | | | |
| Gelatine dynamites, see Explosive, blasting, type A. | | | | | | | | | | | | |
| Germane | 2.3 | UN2192 | 2.3, 2.1. | 2 | None | 302 | 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 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | | |
| Glyceryl trinitrate, see Nitroglycerin, etc. | | | | | | | | | | | | |
| Glycidaldehyde | 3 | UN2622 | II 3, 6.1 | IB2, T7, TP1 | 150 | 202 | 243 | 1 L | 60 L | A | 40 | |
| Grenades, hand or rifle, with bursting charge. | 1.1D | UN0284 | II 1.1D | | | 62 | None | Forbidden | Forbidden | 07 | | |
| Grenades, hand or rifle, with bursting charge. | 1.2D | UN0285 | II 1.2D | | | 62 | None | Forbidden | Forbidden | 07 | | |
| Grenades, hand or rifle, with bursting charge. | 1.1F | UN0292 | II 1.1F | | | 62 | None | Forbidden | Forbidden | 08 | | |
| Grenades, hand or rifle, with bursting charge. | 1.2F | UN0293 | II 1.2F | | | 62 | None | Forbidden | Forbidden | 08 | | |
| Grenades, illuminating, see Ammunition, illuminating, etc. | | | | | | | | | | | | |
| Grenades, practice, hand or rifle | 1.4S | UN0110 | II 1.4S | | | 62 | None | 25 kg | 100 kg | 05 | | |
| Grenades, practice, hand or rifle | 1.3G | UN0318 | II 1.3G | | | 62 | None | Forbidden | Forbidden | 07 | | |
| Grenades, practice, hand or rifle | 1.2G | UN0372 | II 1.2G | | | 62 | None | Forbidden | Forbidden | 07 | | |
| Grenades practice Hand or rifle | 1.4G | UN0452 | II 1.4G | | | 62 | None | Forbidden | 75 kg | 06 | | |
| Grenades, smoke, see Ammunition, smoke, etc. | | | | | | | | | | | | |
| Guanidine nitrate | 5.1 | UN1467 | III 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 73 | |
| Guanyl nitrosaminoguanilydene hydrazine (dry). | Forbidden | | | | | | | | | | | |
| Guanyl nitrosaminoguanilydene hydrazine, wetted with not less than 30 percent water, by mass. | 1.1A | UN0113 | II 1.1A | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | | |
| Guanyl nitrosaminoguanilytetrazene (dry). | Forbidden | | | | | | | | | | | |
| Guanyl nitrosaminoguanilytetrazene, wetted or Tetrazene, wetted with not less than 30 percent water or mixture of alcohol and water, by mass. | 1.1A | UN0114 | II 1.1A | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | | |
| Gunpowder, compressed or Gunpowder in pellets, see Black powder (UN 0028). | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descriptions and proper shipping names | Hazard class or Division | Identifica-tion Num-bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|----------|---|--------------------------|--------------------------|-----|-------------|-------------------------------|--------------------------|----------|-----------|--------------------------|----------------------|----------------------|--------|
| | | | | | | | Excep-tions | Non-bulk | Bulk | Passenger aircraft/rail | Cargo air-craft only | Loca-tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Gunpowder, <i>granular or as a meal</i> , see Black powder (UN 0027). | | | | | | | | | | | | |
| | Hafnium powder, dry | 4.2 | UN2545 | I | 4.2 | | None | 211 | 242 | Forbidden | Forbidden | D | |
| | | | | II | 4.2 | A19, A20, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | D | |
| | | | | III | 4.2 | IB8, IP3 | 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 | 4.1 | A6, A19, A20, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | E | |
| | Hand signal device, see Signal devices, hand. | | | | | | | | | | | | |
| | Hazardous substances, liquid or solid, n.o.s., see Environmentally hazardous substances, etc. | | | | | | | | | | | | |
| D G | Hazardous waste, liquid, n.o.s. ... | 9 | NA3082 | III | 9 | IB3, T2, TP1 | 155 | 203 | 241 | No limit | No limit | A | |
| D G | Hazardous waste, solid, n.o.s. ... | 9 | NA3077 | III | 9 | B54, IB8, IP2 | 155 | 213 | 240 | No limit | No limit | A | |
| | Heating oil, light | 3 | UN1202 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | Helium, compressed | 2.2 | UN1046 | | 2.2 | | 306 | 302 | 302, 314. | 75 kg | 150 kg | A | 85 |
| | Helium-oxygen mixture, see Rare gases and oxygen mixtures. | | | | | | | | | | | | |
| | Helium, refrigerated liquid (<i>cryogenic liquid</i>). | 2.2 | UN1963 | | 2.2 | T75, TP5 | 320 | 316 | 318 | 50 kg | 500 kg | B | |
| | Heptafluoropropane or Refrigerant gas R 227. | 2.2 | UN3296 | | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | |
| | n-Heptaldehyde | 3 | UN3056 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | Heptanes | 3 | UN1206 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | n-Heptene | 3 | UN2278 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Hexachloroacetone | 6.1 | UN2661 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | B | 12, 40 |
| | Hexachlorobenzene | 6.1 | UN2729 | III | 6.1 | IB3 | 153 | 203 | 241 | 60 L | 220 L | A | |
| | Hexachlorobutadiene | 6.1 | UN2279 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-----------|--------|-------|------------|---|------------|-----------|------------|-----------|-----------|-------|--------|
| Hexachlorocyclopentadiene | 6.1 | UN2646 | I | 6.1 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Hexachlorophene | 6.1 | UN2875 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| Hexadecyltrichlorosilane | 8 | UN1781 | II | 8 | A7, B2, B6, IB2, N34, T7, TP2 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| Hexadienes | 3 | UN2458 | II | 3 | IB2, T4, TP1 | None | 202 | 242 | 5 L | 60 L | B | ..... |
| Hexaethyl tetraphosphate and compressed gas mixtures. | 2.3 | UN1612 | ..... | 2.3 | 3 | None | 334 | None | Forbidden | Forbidden | D | 40 |
| Hexaethyl tetraphosphate, <i>liquid</i> | 6.1 | UN1611 | II | 6.1 | IB2, IP2, IP4, N76 | None | 202 | 243 | 5 L | 60 L | E | 40 |
| Hexaethyl tetraphosphate, <i>solid</i> | 6.1 | UN1611 | II | 6.1 | IB8, IP2, IP4, N76 | None | 212 | 242 | 25 kg | 100 kg | E | 40 |
| Hexafluoroacetone | 2.3 | UN2420 | ..... | 2.3, 8 | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| Hexafluoroacetone hydrate | 6.1 | UN2552 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| Hexafluoroethane, or Refrigerant gas R116. | 2.2 | UN2193 | ..... | 2.2 ..... | ..... | 306 | 304 | 314, 315. | 75 kg | 150 | A | ..... |
| Hexafluorophosphoric acid | 8 | UN1782 | II | 8 | A6, A7, B2, IB2, N3, N34, T8, TP2, TP12 | None | 202 | 242 | 1 L | 30 L | A | ..... |
| Hexafluoropropylene compressed or Refrigerant gas R 1216. | 2.2 | UN1858 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| Hexaldehyde | 3 | UN1207 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| Hexamethylene diisocyanate | 6.1 | UN2281 | II | 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 5 L | 60 L | C | 13, 40 |
| <i>Hexamethylene triperoxide diamine (dry).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hexamethylenediamine, solid | 8 | UN2280 | III | 8 | IB8, IP3, T4, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | 12 |
| Hexamethylenediamine solution | 8 | UN1783 | II | 8 | IB2, T7, TP2 | None | 202 | 242 | 1 L | 30 L | A | ..... |
| ..... | ..... | ..... | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| Hexamethyleneimine | 3 | UN2493 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| Hexamethylenetetramine | 4.1 | UN1328 | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| <i>Hexamethylol benzene hexanitrate.</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hexanes | 3 | UN1208 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| 2,2',4,4',6,6'- Hexanitro-3,3'-dihydroxyazobenzene (dry). | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>Hexanitroazoxy benzene</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>N,N'-(hexanitrodiphenyl) ethylene dinitramine (dry).</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| <i>Hexanitrodiphenyl urea</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 2,2',3',4,4',6,6'- Hexanitrodiphenylamine. | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hexanitrodiphenylamine or Dipicrylamine or Hexyl. 2,3',4,4',6,6'- Hexanitrodiphenylether. | 1.1D | UN0079 | II | 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| ..... | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-----------|--------|-----|------------|-------------------------------------|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Hexanitroethane</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Hexanitrooxanilide</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... |  | ..... |  |
| | <i>Hexanitrostilbene</i> | 1.1D | UN0392 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | <i>Hexanoic acid, see</i> Corrosive liquids, n.o.s. | | | | | | | | | | | | |
| | <i>Hexanols</i> | 3 | UN2282 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>1-Hexene</i> | 3 | UN2370 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | <i>Hexogen and cyclotetramethylenetetranitramine mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.</i> | | | | | | | | | | | | |
| | <i>Hexogen and HMX mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.</i> | | | | | | | | | | | | |
| | <i>Hexogen and octogen mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.</i> | | | | | | | | | | | | |
| | <i>Hexogen, see Cyclotrimethylenetrinitramine, etc.</i> | | | | | | | | | | | | |
| | <i>Hexolite, or Hexotol dry or wetted with less than 15 percent water, by mass.</i> | 1.1D | UN0118 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | <i>Hexotonal</i> | 1.1D | UN0393 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | <i>Hexyl, see Hexanitrodiphenylamine.</i> | | | | | | | | | | | | |
| | <i>Hexyltrichlorosilane</i> | 8 | UN1784 | II | 8 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| | <i>High explosives, see individual explosives' entries.</i> | | | | | | | | | | | | |
| | <i>HMX, see Cyclotetramethylenetetranitramine, etc.</i> | | | | | | | | | | | | |
| | <i>Hydrazine, anhydrous</i> | 8 | UN2029 | I | 8, 3, 6.1. | A3, A6, A7, A10, B7, B16, B53 | None | 201 | 243 | Forbidden | 2.5 L | D | 40, 125 |

| | | | | | | | | | | | | |
|---|-----------|--------|-----|--------|--|------|-----|-----------|-----------|-----------|---|----|
| Hydrazine aqueous solution, with more than 37% hydrazine, by mass. | 8 | UN2030 | I | 8, 6.1 | 151 | None | 201 | 243 | Forbidden | 2.5 L | D | 40 |
| | | | II | 8, 6.1 | | None | 202 | 243 | Forbidden | 30 L | D | 40 |
| | | | III | 8, 6.1 | | 154 | 203 | 241 | 5 L | 60 L | D | 40 |
| Hydrazine, aqueous solution with not more than 37 percent hydrazine, by mass. | 6.1 | UN3293 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | |
| Hydrazine azide | Forbidden | | | | | | | | | | | |
| Hydrazine chlorate | Forbidden | | | | | | | | | | | |
| Hydrazine dicarbonic acid diazide. | Forbidden | | | | | | | | | | | |
| Hydrazine perchlorate | Forbidden | | | | | | | | | | | |
| Hydrazine selenate | Forbidden | | | | | | | | | | | |
| Hydroiodic acid, anhydrous, see Hydrogen iodide, anhydrous. | | | | | | | | | | | | |
| Hydroiodic acid | 8 | UN1787 | II | 8 | A3, A6, B2, IB2, N41, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | C | |
| | | | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | C | 8 |
| Hydrobromic acid, anhydrous, see Hydrogen bromide, anhydrous. | | | | | | | | | | | | |
| Hydrobromic acid, with more than 4 percent hydrobromic acid 9. | 8 | UN1788 | | | | | | | | | | |
| Hydrobromic acid, with more than 49 percent hydrobromic acid. | 8 | UN1788 | II | 8 | B2, B15, IB2, N41, T7, TP2 | 154 | 202 | 242 | Forbidden | Forbidden | C | |
| | | | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | Forbidden | Forbidden | C | 8 |
| Hydrobromic acid, with not more than 49 percent hydrobromic acid. | 8 | UN1788 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | C | 8 |
| Hydrocarbon gas mixture, compressed, n.o.s.. | 2.1 | UN1964 | | 2.1 | | 306 | 302 | 314, 315. | Forbidden | 150 kg | E | 40 |
| Hydrocarbon gas mixture, liquefied, n.o.s.. | 2.1 | UN1965 | | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| Hydrocarbons, liquid, n.o.s. | 3 | UN3295 | I | 3 | T11, TP1, TP8, TP28 | 150 | 201 | 243 | 1 L | 30 L | E | |
| Hydrochloric acid, anhydrous, see Hydrogen chloride, anhydrous. | | | | | | | | | | | | |
| Hydrochloric acid | 8 | UN1789 | II | 8 | A3, A6, B3, B15, IB2, N41, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | |
| | | | III | 8 | IB3, T4, TP1, TP12 | 154 | 203 | 241 | 5 L | 60 L | C | 8 |
| Hydrocyanic acid, anhydrous, see Hydrogen cyanide etc. | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--|--|-----------------------------------|-----------------------------------|-----------|--------------------|---|--------------------------|-------------------|--------------|---------------------------------|-------------------------------|-----------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| D | Hydrocyanic acid, aqueous solu- tions or Hydrogen cyanide, aqueous solutions with not more than 20 percent hydro- gen cyanide. | 6.1 | UN1613 | I | 6.1 | 2, B61, B65, B77, B82, T20, TP2, TP13 | None | 195 | 244 | Forbidden | Forbidden | D | 40 |
| | Hydrocyanic acid, aqueous solu- tions with less than 5 percent hydrogen cyanide. | 6.1 | NA1613 | II | 6.1 | IB1, T14, TP2, TP13, TP27 | None | 195 | 243 | Forbidden | 5 L | D | 40 |
| | <i>Hydrocyanic acid, liquefied, see Hydrogen cyanide, etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Hydrocyanic acid (prussic), unstabilized.</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Hydrofluoric acid and Sulfuric acid mixtures. | 8 | UN1786 | I | 8, 6.1 | A6, A7, B15, B23, N5, N34, T10, TP2, TP12, TP13 | None | 201 | 243 | Forbidden | 2.5 L | D | 40 |
| | <i>Hydrofluoric acid, anhydrous, see Hydrogen fluoride, anhy- drous.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Hydrofluoric acid, with more than 60 percent strength. | 8 | UN1790 | I | 8, 6.1 | A6, A7, B4, B15, B23, N5, N34, T10, TP2, TP12, TP13 | None | 201 | 243 | 0.5 L | 2.5 L | D | 12, 40 |
| | Hydrofluoric acid, with not more than 60 percent strength. | 8 | UN1790 | II | 8, 6.1 | A6, A7, B15, IB2, N5, N34, T8, TP2, TP12 | None | 202 | 243 | 1 L | 30 L | D | 12, 40 |
| | <i>Hydrofluoroboric acid, see Fluoroboric acid.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Hydrofluorosilicic acid, see Fluorosilicic acid.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hydrogen and Methane mix- tures, compressed. | 2.1 | UN2034 | ..... | 2.1 | ..... | 306 | 302 | 302, 314, 315. | Forbidden | 150 kg | E | 40 | |
| Hydrogen bromide, anhydrous ... | 2.3 | UN1048 | ..... | 2.3, 8 | 3, B14 | None | 304 | 314, 315. | Forbidden | 25 kg | D | 40 | |
| Hydrogen chloride, anhydrous ... | 2.3 | UN1050 | ..... | 2.3, 8 | 3 | None | 304 | None | Forbidden | Forbidden | D | 40 | |
| Hydrogen chloride, refrigerated liquid. | 2.3 | UN2186 | ..... | 2.3, 8 | 3, B6 | None | None | 314, 315. | Forbidden | Forbidden | B | 40 | |

| | | | | | | | | | | | | |
|--|-----|--------|-------|-----------|--|-----------|-----------|-----------|-----------|-----------|---|-----------------|
| Hydrogen, compressed | 2.1 | UN1049 | ..... | 2.1 | | 306 | 302 | 302, 314. | Forbidden | 150 kg | E | 40, 57 |
| Hydrogen cyanide, solution in alcohol with not more than 45 percent hydrogen cyanide. | 6.1 | UN3294 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Hydrogen cyanide, stabilized with less than 3 percent water. | 6.1 | UN1051 | I | 6.1, 3 | 1, B35, B61, B65, B77, B82 | None | 195 | 244 | Forbidden | Forbidden | D | 40 |
| Hydrogen cyanide, stabilized, with less than 3 percent water and absorbed in a porous inert material. | 6.1 | UN1614 | I | 6.1 | 5 | None | 195 | None | Forbidden | Forbidden | D | 25, 40 |
| Hydrogen fluoride, anhydrous | 8 | UN1052 | I | 8, 6.1 | 3, B7, B46, B71, B77, T10, TP2 | None | 163 | 243 | Forbidden | Forbidden | D | 40 |
| Hydrogen iodide, anhydrous | 2.3 | UN2197 | ..... | 2.3 | 3, 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 | 5.1, 8 | 145, A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24 | 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 | 5.1, 8 | 12, A3, A6, B53, B80, B81, B85, IB2, IP5, T7, TP2, TP6, TP24, TP37 | None | 202 | 243 | Forbidden | Forbidden | D | 25, 66, 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 | 5.1, 8 | A2, A3, A6, B53, IB2, IP5, T7, TP2, TP6, TP24, TP37 | None | 202 | 243 | 1 L | 5 L | 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 | 5.1 | A1, IB2, IP5, T4, TP1, TP6, TP24, TP37 | 152 | 203 | 241 | 2.5 L | 30 L | B | 25, 75, 106 |
| Hydrogen peroxide stabilized or Hydrogen peroxide aqueous solutions, stabilized with more than 60 percent hydrogen peroxide. | 5.1 | UN2015 | I | 5.1, 8 | 12, A3, A6, B53, B80, B81, B85, T10, TP2, TP6, TP24, TP37 | None | 201 | 243 | Forbidden | Forbidden | D | 25, 66, 75, 106 |
| Hydrogen, refrigerated liquid (cryogenic liquid). | 2.1 | UN1966 | ..... | 2.1 | T75, TP5 | None | 316 | 318, 319. | Forbidden | Forbidden | D | 40 |
| Hydrogen selenide, anhydrous .. | 2.3 | UN2202 | ..... | 2.3, 2.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| Hydrogen sulfate, see Sulfuric acid. | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|---|-----------------------------|----------------------|------------------|-------------------------------------|----------------------------------|-------------------------|---|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Hydrogen sulfide | 2.3 | UN1053 | ..... | 2.3, 2.1. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| | Hydrogendifluorides, n.o.s. <i>solid</i> | 8 | UN1740 | II | 8 | IB5, IP2, IP4, N3, N34 | None | 212 | 240 | 15 kg | 50 kg | A | 25, 26, 40 |
|  | ..... |  |  | III | 8 | IB8, IP3, N3, N34 | 154 | 213 | 240 | 25 kg | 100 kg | A | 25, 26, 40 |
| | Hydrogendifluorides, n.o.s. <i>solu-tions</i> | 8 | UN1740 | II | 8 | IB2, N3, N34 | None | 202 | 242 | 1 L | 30 L | A | 25, 26, 40 |
|  | ..... |  |  | III | 8 | IB3, IP3, N3, N34 | 154 | 203 | 241 | 5 L | 60 L | A | 25, 26, 40 |
| | Hydroquinone | 6.1 | UN2662 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | <i>Hydro-silicofluoric acid, see</i> <i>Fluorosilicic acid.</i> | Forbidden | | | | | | | | | | | |
| | <i>Hydroxyl amine iodide</i> | Forbidden | | | | | | | | | | | |
| | Hydroxylamine sulfate | 8 | UN2865 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Hypochlorite solutions | 8 | UN1791 | II | 8 | A7, B2, B15, IB2, IP5, N34, T7, TP2, TP24 | 154 | 202 | 242 | 1 L | 30 L | B | 26 |
|  | ..... |  |  | III | 8 | IB3, N34, T4, TP2, TP24 | 154 | 203 | 241 | 5 L | 60 L | B | 26 |
| | Hypochlorites, inorganic, n.o.s. ... | 5.1 | UN3212 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | D | 48, 56, 58, 69, 106, 116, 118 |
| | <i>Hyponitrous acid</i> | Forbidden | | | | | | | | | | | |
| | <i>Igniter fuse, metal clad, see</i> <i>Fuse, igniter, tubular, metal</i> <i>clad.</i> | Forbidden | | | | | | | | | | | |
| | Igniters | 1.1G | UN0121 | II | 1.1G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Igniters | 1.2G | UN0314 | II | 1.2G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Igniters | 1.3G | UN0315 | II | 1.3G .. | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Igniters | 1.4G | UN0325 | II | 1.4G .. | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | Igniters | 1.4S | UN0454 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | 3,3'-Iminodipropylamine | 8 | UN2269 | III | 8 | IB3, T4, TP2 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| G | Infectious substances, affecting animals <i>only</i> . | 6.2 | UN2900 | ..... | 6.2 | A81, A82 | 134 | 196 | None | 50 mL or 50 g | 4 L or 4 kg | B | 40 |
| G | Infectious substances, affecting humans. | 6.2 | UN2814 | ..... | 6.2 | A81, A82 | 134 | 196 | None | 50 mL or 50 g | 4 L or 4 kg | B | 40 |

| | | | | | | | | | | | | | | | | |
|--|-----------|--------|-------|--------|-------|--|-------|-------|-------|-------|-------|-----------|-----------|-----------|-------|--------------------|
| <i>Inflammable, see Flammable</i> ..... | ..... |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <i>Initiating explosives (dry)</i> | Forbidden | | | | | | | | | | | | | | | |
| <i>Inositol hexanitrate (dry)</i> | Forbidden | | | | | | | | | | | | | | | |
| G Insecticide gases, n.o.s. | 2.2 | UN1968 | ..... | 2.2 | ..... | 306 | ..... | 304 | ..... | 314, | 75 kg | 150 kg | A | | | |
| | | | | | | | | | | 315. | | | | | | |
| G Insecticide gases, flammable, n.o.s.. | 2.1 | UN3354 | ..... | 2.1 | ..... | T50 | 306 | ..... | 304 | ..... | 314, | Forbidden | 150 kg | D | 40 | |
| | | | | | | | | | | | 315. | | | | | |
| G Insecticide gases, toxic, flammable, n.o.s. <i>Inhalation hazard Zone A.</i> | 2.3 | UN3355 | ..... | 2.3, | ..... | 1 | None | ..... | 192 | ..... | 245 | ..... | Forbidden | Forbidden | D | 40 |
| | | | | | | | | | | | | | | | | |
| G Insecticide gases, toxic, flammable, n.o.s. <i>Inhalation hazard Zone B.</i> | 2.3 | UN3355 | ..... | 2.3, | ..... | 2, B9, B14 | None | ..... | 302, | ..... | 314, | Forbidden | Forbidden | D | 40 | |
| | | | | | | | | | | | 315. | | | | | |
| G Insecticide gases, toxic, flammable, n.o.s. <i>Inhalation hazard Zone C.</i> | 2.3 | UN3355 | ..... | 2.3, | ..... | 3, B14 | None | ..... | 302, | ..... | 314, | Forbidden | Forbidden | D | ..... |  |
| | | | | | | | | | | | 315. | | | | | |
| G Insecticide gases, toxic, flammable, n.o.s. <i>Inhalation hazard Zone D.</i> | 2.3 | UN3355 | ..... | 2.3, | ..... | 4 | None | ..... | 302, | ..... | 314, | Forbidden | Forbidden | D | ..... |  |
| | | | | | | | | | | | 315. | | | | | |
| G Insecticide gases, toxic, n.o.s. ... | 2.3 | UN1967 | ..... | 2.3 | ..... | 3 | None | ..... | 193, | ..... | 245 | ..... | Forbidden | Forbidden | D | 40 |
| | | | | | | | | | | | 334. | | | | | |
| <i>Inulin trinitrate (dry)</i> | Forbidden | | | | | | | | | | | | | | | |
| <i>Iodine azide (dry)</i> | Forbidden | | | | | | | | | | | | | | | |
| Iodine monochloride | 8 | UN1792 | II | 8 | ..... | B6, IB8, IP2, IP4, N41, T7, TP2 | None | ..... | 212 | ..... | 240 | ..... | Forbidden | 50 kg | D | 40, 66, 74, 89, 90 |
| Iodine pentafluoride | 5.1 | UN2495 | I | 5.1, | ..... |  | None | ..... | 205 | ..... | 243 | ..... | Forbidden | Forbidden | D | 25, 40, 66, 90 |
| | | | | | | | | | | | | | | | | |
| 2-Iodobutane | 3 | UN2390 | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| Iodomethylpropanes | 3 | UN2391 | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| Iodopropanes | 3 | UN2392 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| <i>Iodoxy compounds (dry)</i> | Forbidden | | | | | | | | | | | | | | | |
| <i>Iridium nitratopentamine iridium nitrate.</i> | Forbidden | | | | | | | | | | | | | | | |
| <i>Iron chloride, see Ferric chloride</i> | | | | | | | | | | | | | | | | |
| Iron oxide, spent, or Iron sponge, spent <i>obtained from coal gas purification.</i> | 4.2 | UN1376 | III | 4.2 | ..... | B18, IB8, IP3 | None | ..... | 213 | ..... | 240 | ..... | Forbidden | Forbidden | E | ..... |
| Iron penta carbonyl | 6.1 | UN1994 | I | 6.1, 3 | ..... | 1.B9, B14, B30, B72, B77, T22, TP2, TP13, TP38, TP44 | None | ..... | 226 | ..... | 244 | ..... | Forbidden | Forbidden | D | 40 |
| <i>Iron sesquichloride, see Ferric chloride.</i> | | | | | | | | | | | | | | | | |
| <i>Irritating material, see Tear gas substances, etc.</i> | | | | | | | | | | | | | | | | |
| Isobutane <i>see also</i> Petroleum gases, liquefied. | 2.1 | UN1969 | ..... | 2.1 | ..... | 19, T50 | 306 | ..... | 304 | ..... | 314, | Forbidden | 150 kg | E | 40 | |
| | | | | | | | | | | | 315. | | | | | |
| Isobutanol or Isobutyl alcohol | 3 | UN1212 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|--|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|-----------------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Isobutyl acetate | 3 | UN1213 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isobutyl acrylate, stabilized | 3 | UN2527 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isobutyl alcohol, see Isobutanol | | | | | | | | | | | | |
| D | Isobutyl aldehyde, see Isobutyraldehyde. | | | | | | | | | | | | |
| | Isobutyl chloroformate | 6.1 | NA2742 | I | 6.1, 3, 8. | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | 1 L | 30 L | A | 12, 13, 22, 25, 40, 48, 100 |
| | Isobutyl formate | 3 | UN2393 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| + | Isobutyl isobutyrate | 3 | UN2528 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isobutyl isocyanate | 3 | UN2486 | I | 3, 6.1 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| | Isobutyl methacrylate, stabilized | 3 | UN2283 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| G | Isobutyl propionate | 3 | UN2394 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | B | ..... |
| | Isobutylamine | 3 | UN1214 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| | Isobutylene see also Petroleum gases, liquefied. | 2.1 | UN1055 | ..... | 2.1 | 19, T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | Isobutyraldehyde or Isobutyl aldehyde. | 3 | UN2045 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | 40 |
| | Isobutyric acid | 3 | UN2529 | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | ..... |
| | Isobutyronitrile | 3 | UN2284 | II | 3, 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | Isobutyryl chloride | 3 | UN2395 | II | 3, 8 | IB1, T7, TP2 | None | 202 | 243 | 1 L | 5 L | C | 40 |
| | Isocyanates, flammable, toxic, n.o.s. or Isocyanate solutions, flammable, toxic, n.o.s. flash point less than 23 degrees C. | 3 | UN2478 | II | 3, 6.1 | 5, A3, A7, IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | D | 40 |
| | 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 | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 25, 40, 48 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|--|-----------|--------|-----|------------|---|------|-----|------|-----------|-----------|---|------------|
| G | Isocyanates, toxic, n.o.s. or Isocyanate solutions, toxic, n.o.s., flash point more than 61 degrees C and boiling point less than 300 degrees C. | 6.1 | UN2206 | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | E | 25, 40, 48 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP1, TP13, TP28 | 153 | 203 | 241 | 60 L | 220 L | E | 25, 40, 48 |
| | Isocyanatobenzotrifluorides | 6.1 | UN2285 | II | 6.1, 3 | 5, IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | D | 25, 40, 48 |
| | Isoheptenes | 3 | UN2287 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isohexenes | 3 | UN2288 | II | 3 | IB2, T11, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | ..... |
| | Isocotane, see Octanes | | | | | | | | | | | | |
| | Isocotenes | 3 | UN1216 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isopentane, see Pentane | | | | | | | | | | | | |
| | Isopentanoic acid, see Corrosive liquids, n.o.s. | | | | | | | | | | | | |
| | Isopentenes | 3 | UN2371 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | Isophorone diisocyanate | 6.1 | UN2290 | III | 6.1 | IB3, T4, TP2 | 153 | 203 | 241 | 60 L | 220 L | B | 40 |
| | Isophoronediamine | 8 | UN2289 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Isoprene, stabilized | 3 | UN1218 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | Isopropanol or Isopropyl alcohol | 3 | UN1219 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isopropenyl acetate | 3 | UN2403 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isopropenylbenzene | 3 | UN2303 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isopropyl acetate | 3 | UN1220 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isopropyl acid phosphate | 8 | UN1793 | III | 8 | IB8, IP3, T4, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Isopropyl alcohol, see Isopropanol. | | | | | | | | | | | | |
| | Isopropyl butyrate | 3 | UN2405 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isopropyl chloroacetate | 3 | UN2947 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isopropyl chloroformate | 6.1 | UN2407 | I | 6.1, 3, 8. | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP44 | None | 227 | 244 | Forbidden | Forbidden | B | 40 |
| | Isopropyl 2-chloropropionate | 3 | UN2934 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isopropyl isobutyrate | 3 | UN2406 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| + | Isopropyl isocyanate | 3 | UN2483 | I | 3, 6.1 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| | Isopropyl mercaptan, see Propanethiols. | | | | | | | | | | | | |
| | Isopropyl nitrate | 3 | UN1222 | II | 3 | IB2, IP7 | 150 | 202 | None | 5 L | 60 L | D | ..... |
| | Isopropyl phosphoric acid, see Isopropyl acid phosphate. | | | | | | | | | | | | |
| | Isopropyl propionate | 3 | UN2409 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Isopropylamine | 3 | UN1221 | I | 3, 8 | T11, TP2 | None | 201 | 243 | 0.5 L | 2.5 L | E | ..... |
| | Isopropylbenzene | 3 | UN1918 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Isopropylcumyl hydroperoxide, with more than 72 percent in solution. | Forbidden | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|---|-----------------------------------|-----------------------------------|-----------|--------------------|--------------------------------------|--------------------------|-------------------|--------------|---------------------------------|-------------------------------|-----------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Isosorbide dinitrate mixture <i>with not less than 60 percent lactose, mannose, starch or calcium hydrogen phosphate.</i> | 4.1 | UN2907 | II | 4.1 | IB6, IP2, N85 | None | 212 | None | 15 kg | 50 kg | E | ..... |
| | Isosorbide-5-mononitrate | 4.1 | UN3251 | III | 4.1 | 66, IB8 | 151 | 213 | 240 | Forbidden | Forbidden | D | 12 |
| | <i>Isothiocyanic acid</i> | Forbidden | | | | | | | | | | | |
| | <i>Jet fuel, see Fuel aviation, turbine engine.</i> | | | | | | | | | | | | |
| D | Jet perforating guns, charged oil well, with detonator. | 1.1D | NA0124 | II | 1.1D .. | 55, 56 | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| D | Jet perforating guns, charged oil well, with detonator. | 1.4D | NA0494 | II | 1.4D .. | 55, 56 | None | 62 | None | Forbidden | Forbidden | 06 | ..... |
| | Jet perforating guns, charged oil well, without detonator. | 1.1D | UN0124 | II | 1.1D .. | 55 | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Jet perforating guns, charged, oil well, without detonator. | 1.4D | UN0494 | II | 1.4D .. | 55, 114 | None | 62 | None | Forbidden | 300 kg | 06 | ..... |
| | <i>Jet perforators, see Charges, shaped, etc.</i> | | | | | | | | | | | | |
| | <i>Jet tappers, without detonator, see Charges, shaped, etc.</i> | | | | | | | | | | | | |
| | <i>Jet thrust igniters, for rocket motors or Jato, see Igniters.</i> | | | | | | | | | | | | |
| | <i>Jet thrust unit (Jato), see Rocket motors.</i> | | | | | | | | | | | | |
| | Kerosene | 3 | UN1223 | III | 3 | 144, B1, IB3, T2, TP2 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| G | Ketones, liquid, n.o.s. | 3 | UN1224 | I | 3 | T11, TP1, TP8, TP27 | None | 201 | 243 | 1 L | 30 L | E | ..... |
| | | | | II | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | | | | III | 3 | B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Krypton, compressed | 2.2 | UN1056 | | 2.2 | | 306 | 302 | None | 75 kg | 150 kg | A | ..... |
| | Krypton, refrigerated liquid (<i>cryogenic liquid</i>). | 2.2 | UN1970 | | 2.2 | T75, TP5 | 320 | None | None | 50 kg | 500 kg | B | ..... |
| | <i>Lacquer base or lacquer chips, nitrocellulose, dry, see Nitrocellulose, etc. (UN 2557).</i> | | | | | | | | | | | | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-----------|--------|-----|-----------|-------------------|------|-----|------|-----------|-----------|----|-------------|
| Lacquer base or lacquer chips, plastic, wet with alcohol or solvent, see Nitrocellulose (UN2059, UN2555, UN2556, UN2557) or Paint etc.(UN1263). | | | | | | | | | | | | |
| Lead acetate | 6.1 | UN1616 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| Lead arsenates | 6.1 | UN1617 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| Lead arsenites | 6.1 | UN1618 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| Lead azide (dry) | Forbidden | | | | | | | | | | | |
| Lead azide, wetted with not less than 20 percent water or mixture of alcohol and water, by mass. | 1.1A | UN0129 | II | 1.1A | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | |
| Lead compounds, soluble, n.o.s. | 6.1 | UN2291 | III | 6.1 | 138, IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| Lead cyanide | 6.1 | UN1620 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 26 |
| Lead dioxide | 5.1 | UN1872 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| Lead dross, see Lead sulfate, with more than 3 percent free acid. | | | | | | | | | | | | |
| Lead nitrate | 5.1 | UN1469 | II | 5.1, 6.1. | IB8, IP2, IP4 | None | 212 | 242 | 5 kg | 25 kg | A | |
| Lead nitroresorcinate (dry) | Forbidden | | | | | | | | | | | |
| Lead perchlorate, solid | 5.1 | UN1470 | II | 5.1, 6.1. | IB6, IP2, T4, TP1 | None | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Lead perchlorate, solution | 5.1 | UN1470 | II | 5.1, 6.1. | IB1, T4, TP1 | None | 202 | 243 | 1 L | 5 L | A | 56, 58, 106 |
| Lead peroxide, see Lead dioxide | | | | | | | | | | | | |
| Lead phosphite, dibasic | 4.1 | UN2989 | II | 4.1 | IB8, IP2, IP4 | None | 212 | 240 | 5 kg | 25 kg | B | 34 |
| | | | III | 4.1 | IB8, IP3 | 151 | 213 | 240 | 15 kg | 50 kg | B | 34 |
| Lead picrate (dry) | Forbidden | | | | | | | | | | | |
| 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 | 1.1A | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | |
| Lead sulfate with more than 3 percent free acid. | 8 | UN1794 | II | 8 | IB8, IP2, IP4 | 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 | 143 | None | 219 | None | No limit | No limit | A | |
| Life-saving appliances, self inflating. | 9 | UN2990 | | None | | None | 219 | None | No limit | No limit | A | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-------|--------|-------|--------------|------------|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Lighter replacement cartridges containing liquefied petroleum gases (and similar devices, each not exceeding 65 grams), see Lighters or lighter refills etc. containing flammable gas.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Lighters, fuse | 1.4S | UN0131 | II | 1.4S ... | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Lighters or Lighter refills containing flammable gas. | 2.1 | UN1057 | ..... | 2.1 | N10 | None | 21, 308 | None | 1 kg | 15 kg | B | 40 |
| | <i>Lime, unslaked, see Calcium oxide.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| G | Liquefied gas, flammable, n.o.s. | 2.1 | UN3161 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | D | 40 |
| G | Liquefied gas, n.o.s. | 2.2 | UN3163 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| G | Liquefied gas, oxidizing, n.o.s. ... | 2.2 | UN3157 | ..... | 2.2, 5.1. | | 306 | 304 | 314, 315. | 75 kg | 150 kg | D | ..... |
| GI | Liquefied gas, toxic, corrosive, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3308 | ..... | 2.3, 8 | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| GI | Liquefied gas, toxic, corrosive, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3308 | ..... | 2.3, 8 | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Liquefied gas, toxic, corrosive, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3308 | ..... | 2.3, 8 | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Liquefied gas, toxic, corrosive, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3308 | ..... | 2.3, 8 | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| GI | Liquefied gas, toxic, flammable, corrosive, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3309 | ..... | 2.3, 2.1, 8. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 17, 40 |
| GI | Liquefied gas, toxic, flammable, corrosive, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3309 | ..... | 2.3, 2.1, 8. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| GI | Liquefied gas, toxic, flammable, corrosive, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3309 | ..... | 2.3, 2.1, 8. | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 17, 40 |

| | | | | | | | | | | | | | |
|-----|---|-----|--------|-------|--------------------|------------|-----------|-----------|--------------|-----------|-----------|---|---------------|
| G I | Liquefied gas, toxic, flammable, corrosive, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3309 | ..... | 2.3, 2.1, 8. | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| G | Liquefied gas, toxic, flammable, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3160 | ..... | 2.3, 2.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, flammable, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3160 | ..... | 2.3, 2.1. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, flammable, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3160 | ..... | 2.3, 2.1. | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, flammable, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3160 | ..... | 2.3, 2.1. | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3162 | ..... | 2.3 | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3162 | ..... | 2.3 | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3162 | ..... | 2.3 | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3162 | ..... | 2.3 | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G I | Liquefied gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3310 | ..... | 2.3, 5.1, 8. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40, 89, 90 |
| GI | Liquefied gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3310 | ..... | 2.3, 5.1, 8. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40, 89, 90 |
| GI | Liquefied gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3310 | ..... | 2.3, 5.1, 8. | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40, 89, 90 |
| GI | Liquefied gas, toxic, oxidizing, corrosive, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3310 | ..... | 2.3, 5.1, 8. | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40, 89, 90 |
| G | Liquefied gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone A.</i> | 2.3 | UN3307 | ..... | 2.3, 5.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone B.</i> | 2.3 | UN3307 | ..... | 2.3, 5.1. | 2, B9, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone C.</i> | 2.3 | UN3307 | ..... | 2.3, 5.1. | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| G | Liquefied gas, toxic, oxidizing, n.o.s. <i>Inhalation Hazard Zone D.</i> | 2.3 | UN3307 | ..... | 2.3, 5.1. | 4 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| | Liquefied gases, non-flammable charged with nitrogen, carbon dioxide or air. | 2.2 | UN1058 | ..... | 2.2 | | 306 | 304 | None | 75 kg | 150 kg | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|-----------------------------------|-----------------------------------|-----------|--------------------|--------------------------------------|-----------------------------|-------------------|--------------|---------------------------------|-------------------------------|--------------------------|--------------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Liquefied hydrocarbon gas, see Hydrocarbon gas mixture, liq- uefied, n.o.s..</i> | | | | | | | | | | | | |
| | <i>Liquefied natural gas, see Meth- ane, etc. (UN 1972).</i> | | | | | | | | | | | | |
| | <i>Liquefied petroleum gas see Pe- troleum gases, liquefied.</i> | | | | | | | | | | | | |
| | Lithium | 4.3 | UN1415 | I | 4.3 | A7, A19, IB1, IP1, N45 | None | 211 | 244 | Forbidden | 15 kg | E | |
| | <i>Lithium acetylide ethylene- diamine complex, see Water reactive solid etc.</i> | | | | | | | | | | | | |
| | Lithium alkyls | 4.2 | UN2445 | I | 4.2, 4.3 | B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | |
| | Lithium aluminum hydride | 4.3 | UN1410 | I | 4.3 | A19 | None | 211 | 242 | Forbidden | 15 kg | E | |
| | Lithium aluminum hydride, ethe- real. | 4.3 | UN1411 | I | 4.3, 3 | A2, A3, A11, N34 | None | 201 | 244 | Forbidden | 1 L | D | 40 |
| | Lithium batteries, contained in equipment. | 9 | UN3091 | II | 9 | 29, A54, A55 | 185 | 185 | None | 5 kg | 35kg | A | |
| | Lithium batteries packed with equipment. | 9 | UN3091 | II | 9 | 29, A54, A55 | 185 | 185 | None | 5 kg gross | 35 kg gross | A | |
| | Lithium battery | 9 | UN3090 | II | 9 | 29, A54, A55 | 185 | 185 | None | 5 kg gross | 35 kg gross | A | |
| | Lithium borohydride | 4.3 | UN1413 | I | 4.3 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | |
| | Lithium ferrosilicon | 4.3 | UN2830 | II | 4.3 | A19, IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | E | 40, 85, 103 |
| | Lithium hydride | 4.3 | UN1414 | I | 4.3 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | |
| | Lithium hydride, fused solid | 4.3 | UN2805 | II | 4.3 | A8, A19, A20, IB4 | 151 | 212 | 241 | 15 kg | 50 kg | E | |
| | Lithium hydroxide | 8 | UN2680 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | |
| | Lithium hydroxide, solution | 8 | UN2679 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | |
|  | ..... |  |  | III | 8 | IB3, T4, TP2 | 154 | 203 | 241 | 5 L | 60 L | A | 96 |
| | Lithium hypochlorite, dry with more than 39% available chlo- rine (8.8% available oxygen) or Lithium hypochlorite mix- tures, dry with more than 39% available chlorine (8.8% avail- able oxygen). | 5.1 | UN1471 | II | 5.1 | A9, IB8, IP2, IP4, N34 | 152 | 212 | 240 | 5 kg | 25 kg | A | 48, 56, 58, 69, 106, 116 |

| | | | | | | | | | | | | |
|--|-----------|--------|-----|------|--------------------|------|-----|------|-----------|-----------|---|-------------|
| <i>Lithium in cartridges, see Lithium.</i> | | | | | | | | | | | | |
| Lithium nitrate | 5.1 | UN2722 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| Lithium nitride | 4.3 | UN2806 | I | 4.3 | A19, IB4, IP1, N40 | None | 211 | 242 | Forbidden | 15 kg | E | |
| Lithium peroxide | 5.1 | UN1472 | II | 5.1 | A9, IB6, IP2, N34 | 152 | 212 | None | 5 kg | 25 kg | A | 13, 75, 106 |
| Lithium silicon | 4.3 | UN1417 | II | 4.3 | A19, A20, IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | A | 85, 103 |
| <i>LNG, see Methane etc. (UN 1972).</i> | | | | | | | | | | | | |
| London purple | 6.1 | UN1621 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| <i>LPG, see Petroleum gases, liquefied.</i> | | | | | | | | | | | | |
| <i>Lye, see Sodium hydroxide, solutions.</i> | | | | | | | | | | | | |
| Magnesium alkyls | 4.2 | UN3053 | I | 4.2, | B11, T21, TP2, | None | 181 | 244 | Forbidden | Forbidden | D | 18 |
| Magnesium aluminum phosphide. | 4.3 | UN1419 | I | 4.3, | A19, N34, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40, 85 |
| Magnesium arsenate | 6.1 | UN1622 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| <i>Magnesium bisulfite solution, see Bisulfites, aqueous solutions, n.o.s..</i> | | | | | | | | | | | | |
| Magnesium bromate | 5.1 | UN1473 | II | 5.1 | A1, IB8, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Magnesium chlorate | 5.1 | UN2723 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Magnesium diamide | 4.2 | UN2004 | II | 4.2 | A8, A19, A20, IB6 | None | 212 | 241 | 15 kg | 50 kg | C | |
| Magnesium diphenyl | 4.2 | UN2005 | I | 4.2 | | None | 187 | 244 | Forbidden | Forbidden | C | |
| <i>Magnesium dross, wet or hot</i> | Forbidden | | | | | | | | | | | |
| Magnesium fluorosilicate | 6.1 | UN2853 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| Magnesium granules, coated, particle size not less than 149 microns. | 4.3 | UN2950 | III | 4.3 | A1, A19, IB8, IP4 | 151 | 213 | 240 | 25 kg | 100 kg | A | |
| Magnesium hydride | 4.3 | UN2010 | I | 4.3 | 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 | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | 39 |
| Magnesium nitrate | 5.1 | UN1474 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| Magnesium perchlorate | 5.1 | UN1475 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Magnesium peroxide | 5.1 | UN1476 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 13, 75, 106 |
| Magnesium phosphide | 4.3 | UN2011 | I | 4.3, | A19, N40 | None | 211 | None | Forbidden | 15 kg | E | 40, 85 |
| Magnesium, powder or Magnesium alloys, powder. | 4.3 | UN1418 | I | 4.3, | A19, B56 | None | 211 | 244 | Forbidden | 15 kg | A | 39 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|--|---|---------------|---------------------------|--|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
|  | ..... | ..... |  | II | 4.3, 4.2. | A19, B56, IB5, IP2 | None | 212 | 241 | 15 kg | 50 kg | A | 39 |
|  | ..... | ..... |  | III | 4.3, 4.2. | A19, B56, IB8, IP4 | None | 213 | 241 | 25 kg | 100 kg | A | 39 |
| | <i>Magnesium scrap, see Magne- sium, etc. (UN 1869).</i> | | | | | | | | | | | | |
| | Magnesium silicide | 4.3 | UN2624 | II | 4.3 | A19, A20, IB7, IP2 | 151 | 212 | 241 | 15 kg | 50 kg | B | 85, 103 |
| | <i>Magnetized material, see § 173.21.</i> | | | | | | | | | | | | |
| | Maleic anhydride | 8 | UN2215 | III | 8 | IB8, IP3, T4, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Malononitrile | 6.1 | UN2647 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 12 |
| | <i>Mancozeb (manganese ethylenebisdithiocarbamate complex with zinc) see Maneb.</i> | | | | | | | | | | | | |
| | Maneb or Maneb preparations with not less than 60 percent maneb. | 4.2 | UN2210 | III | 4.2, 4.3. | 57, A1, A19, IB6 | None | 213 | 242 | 25 kg | 100 kg | A | 34 |
| | Maneb stabilized or Maneb preparations, stabilized against self-heating. | 4.3 | UN2968 | III | 4.3 | 54, A1, A19, IB8, IP4 | 151 | 213 | 242 | 25 kg | 100 kg | B | 34 |
| | Manganese nitrate | 5.1 | UN2724 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Manganese resinate | 4.1 | UN1330 | III | 4.1 | A1, IB6 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | <i>Mannitan tetranitrate</i> | Forbidden | | | | | | | | | | | |
| | <i>Mannitol hexanitrate (dry)</i> | Forbidden | | | | | | | | | | | |
| | Mannitol hexanitrate, wetted or Nitromannite, wetted with not less than 40 percent water, or mixture of alcohol and water, by mass. | 1.1D | UN0133 | II | 1.1D .. | 121 | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | <i>Marine pollutants, liquid or solid, n.o.s., see Environmentally hazardous substances, liquid or solid, n.o.s..</i> | | | | | | | | | | | | |
| | <i>Matches, block, see Matches, 'strike anywhere'.</i> | | | | | | | | | | | | |
| | Matches, fusee | 4.1 | UN2254 | III | 4.1 | | 186 | 186 | None | Forbidden | Forbidden | A | ..... |
| | Matches, safety (book, card or strike on box). | 4.1 | UN1944 | III | 4.1 | | 186 | 186 | None | 25 kg | 100 kg | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-----------|--------|-----|-----------|-----------------------------|------------|------------|------------|-----------|--------|-------|---------|
| Matches, strike anywhere | 4.1 | UN1331 | III | 4.1 | 186 | 186 | None | Forbidden | Forbidden | B | ..... |  |
| Matches, wax, Vesta | 4.1 | UN1945 | III | 4.1 | 186 | 186 | None | 25 kg | 100 kg | B | ..... |  |
| <i>Matting acid, see Sulfuric acid ...</i> | | | | | | | | | | | | |
| Medicine, liquid, flammable, toxic, n.o.s.. | 3 | UN3248 | II | 3, 6.1 | 36, IB2 | None | 202 | None | 1 L | 5 L | B | 40 |
| Medicine, liquid, toxic, n.o.s. | 6.1 | UN1851 | III | 3, 6.1 | 36, IB3 | 150 | 203 | None | 5 L | 5 L | A | ..... |
| Medicine, solid, toxic, n.o.s. | 6.1 | UN3249 | II | 6.1 | 36 | 153 | 202 | 243 | 5 L | 5 L | C | 40 |
| <i>Mentetrahydrophthalic anhydride, see Corrosive liquids, n.o.s..</i> | | | III | 6.1 | 36 | 153 | 203 | 241 | 5 L | 5 L | C | 40 |
| Mercaptans, liquid, flammable, n.o.s. or Mercaptan mixture, liquid, flammable, n.o.s.. | 3 | UN3336 | II | 6.1 | 36 | 153 | 212 | None | 5 kg | 5 kg | C | 40 |
| Mercaptans, liquid, flammable, toxic, n.o.s. or Mercaptan mixtures, liquid, flammable, toxic, n.o.s.. | 3 | UN1228 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | 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 | 3 | IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | 95 |
| 5-Mercaptotetrazol-1-acetic acid | 1.4C | UN0448 | III | 3 | B1, B52, IB3, T4, TP1, TP29 | 150 | 203 | 241 | 60 L | 220 L | B | 95 |
| Mercuric arsenate | 6.1 | UN1623 | II | 3, 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | Forbidden | 60 L | B | 40, 95 |
| Mercuric chloride | 6.1 | UN1624 | III | 3, 6.1 | B1, IB3, T7, TP1, TP28 | 150 | 203 | 242 | 5 L | 220 L | A | 40, 95 |
| <i>Mercuric compounds, see Mercury compounds, etc.</i> | | | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | C | 40, 121 |
| Mercuric nitrate | 6.1 | UN1625 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 09 | ..... |
| + Mercuric potassium cyanide | 6.1 | UN1626 | I | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| <i>Mercuric sulfocyanate, see Mercury thiocyanate.</i> | | | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| <i>Mercuriol, see Mercury nucleate</i> | | | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| <i>Mercurous azide</i> | Forbidden | | | | | | | | | | | |
| <i>Mercurous compounds, see Mercury compounds, etc.</i> | | | | | | | | | | | | |
| Mercurous nitrate | 6.1 | UN1627 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury | 8 | UN2809 | III | 8 | | 164 | 164 | 240 | 35 kg | 35 kg | B | 40, 97 |
| Mercury acetate | 6.1 | UN1629 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| <i>Mercury acetylde</i> | Forbidden | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--|---|--|---|---------------|---------------------------|--|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| A | Mercury ammonium chloride | 6.1 | UN1630 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Mercury based pesticides, liquid, flammable, toxic, <i>flash point less than 23 degrees C.</i> | 3 | UN2778 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Mercury based pesticides, liquid, toxic. | 6.1 | UN3012 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Mercury based pesticides, liquid, toxic, flammable, <i>flash point not less than 23 degrees C.</i> | 6.1 | UN3011 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1, 3 | IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Mercury based pesticides, solid, toxic. | 6.1 | UN2777 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
|  | ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Mercury benzoate | 6.1 | UN1631 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Mercury bromides | 6.1 | UN1634 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury compounds, liquid, n.o.s.. | 6.1 | UN2024 | I | 6.1 | | None | 201 | 243 | 1 L | 30 L | B | 40 | |
| ..... | ..... | ..... | II | 6.1 | IB2 | None | 202 | 243 | 5 L | 60 L | B | 40 | |
| ..... | ..... | ..... | III | 6.1 | IB3 | 153 | 203 | 241 | 60 L | 220 L | B | 40 | |
| Mercury compounds, solid, n.o.s.. | 6.1 | UN2025 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | ..... |  |
| ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |  |
| ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |  |
| Mercury contained in manufac- tured articles. | 8 | UN2809 | III | 8 | | None | 164 | None | No limit | No limit | B | 40, 97 | |
| Mercury cyanide | 6.1 | UN1636 | II | 6.1 | | IB8, IP2, IP4, N74, N75 | None | 212 | 242 | 25 kg | 100 kg | A | 26 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----------|--------|-----|-----------|-------------------------|------|-----|------|-----------|-----------|----|--------|
| Mercury fulminate, wetted with not less than 20 percent water, or mixture of alcohol and water, by mass. | 1.1A | UN0135 | II | 1.1A ... | 111, 117 | None | 62 | None | Forbidden | Forbidden | 12 | ..... |
| Mercury gluconate | 6.1 | UN1637 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury iodide, solid | 6.1 | UN1638 | II | 6.1 | IB2, IP2, IP4 | 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 | 6.1 | IB8, IP2, IP4 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| Mercury nitride | Forbidden |  |  |  |  |  |  |  |  |  |  | ..... |
| Mercury nucleate | 6.1 | UN1639 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury oleate | 6.1 | UN1640 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury oxide | 6.1 | UN1641 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury oxycyanide | Forbidden |  |  |  |  |  |  |  |  |  |  | ..... |
| Mercury oxycyanide, desensitized. | 6.1 | UN1642 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 26, 91 |
| Mercury potassium iodide | 6.1 | UN1643 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury salicylate | 6.1 | UN1644 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury sulfates | 6.1 | UN1645 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mercury thiocyanate | 6.1 | UN1646 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| Mesityl oxide | 3 | UN1229 | III | 3 | B1, IB3, T2, TP1 | None | 203 | 242 | 60 L | 220 L | A | ..... |
| Metal alkyl halides, water-reactive n.o.s. or Metal aryl halides, water-reactive, n.o.s.. | 4.2 | UN3049 | I | 4.2, 4.3. | B9, B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Metal alkyl hydrides, water-reactive, n.o.s. or Metal aryl hydrides, water-reactive, n.o.s.. | 4.2 | UN3050 | I | 4.2, 4.3. | B9, B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Metal alkyls, water-reactive, n.o.s. or Metal aryls, water-reactive n.o.s.. | 4.2 | UN2003 | I | 4.2, 4.3. | B11, T21, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | ..... |
| Metal carbonyls, n.o.s. | 6.1 | UN3281 | I | 6.1 | 5, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| ..... |  |  | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| ..... |  |  | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| Metal catalyst, dry | 4.2 | UN2881 | I | 4.2 | N34 | None | 187 | None | Forbidden | Forbidden | C | ..... |
| ..... |  |  | II | 4.2 | IB6, IP2, N34 | None | 187 | 242 | Forbidden | 50 kg | C | ..... |
| ..... |  |  | III | 4.2 | IB8, IP3, N34 | None | 187 | 241 | 25 kg | 100 kg | C | ..... |
| Metal catalyst, wetted with a visible excess of liquid. | 4.2 | UN1378 | II | 4.2 | A2, A8, IB1, N34 | None | 212 | None | Forbidden | 50 kg | C | ..... |
| Metal hydrides, flammable, n.o.s.. | 4.1 | UN3182 | II | 4.1 | A1, IB4 | 151 | 212 | 240 | 15 kg | 50 kg | E | ..... |
| ..... |  |  | III | 4.1 | A1, IB4 | 151 | 213 | 240 | 25 kg | 100 kg | E | ..... |
| Metal hydrides, water reactive, n.o.s.. | 4.3 | UN1409 | I | 4.3 | A19, N34, N40 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| ..... |  |  | II | 4.3 | A19, IB4, N34, N40 | 151 | 212 | 242 | 15 kg | 50 kg | D | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|--|----------------------------|----------------------------|-----|----------------|--|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Metal powder, self-heating, n.o.s.. | 4.2 | UN3189 | II | 4.2 | IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | C | ..... |
|  | ..... | ..... | ..... | III | 4.2 | IB8, IP3 | None | 213 | 241 | 25 kg | 100 kg | C | ..... |
| | Metal powders, flammable, n.o.s.. | 4.1 | UN3089 | II | 4.1 | IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | B | ..... |
|  | ..... | ..... | ..... | III | 4.1 | IB6 | 151 | 213 | 240 | 25 kg | 100 kg | B | ..... |
| | <i>Metal salts of methyl nitramine (dry).</i> | Forbidden | | | | | | | | | | | |
| G | Metal salts of organic com- pounds, flammable, n.o.s.. | 4.1 | UN3181 | II | 4.1 | A1, IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | B | 40 |
|  | ..... | ..... | ..... | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | B | 40 |
| G | Metaldehyde | 4.1 | UN1332 | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Metallic substance, water-reac- tive, n.o.s.. | 4.3 | UN3208 | I | 4.3 | IB4 | None | 211 | 242 | Forbidden | 15 kg | E | 40 |
|  | ..... | ..... | ..... | II | 4.3 | IB7, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | E | 40 |
|  | ..... | ..... | ..... | III | 4.3 | IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | E | 40 |
| G | Metallic substance, water-reac- tive, self-heating, n.o.s.. | 4.3 | UN3209 | I | 4.3, 4.2. | | None | 211 | 242 | Forbidden | 15 kg | E | 40 |
|  | ..... | ..... | ..... | II | 4.3, 4.2. | IB5, IP2 | None | 212 | 242 | 15 kg | 50 kg | E | 40 |
|  | ..... | ..... | ..... | III | 4.3, 4.2. | IB8, IP4 | None | 213 | 242 | 25 kg | 100 kg | E | 40 |
| | Methacrylaldehyde, stabilized | 3 | UN2396 | II | 3, 6.1 | 45, IB2, T7, TP1, TP13 | None | 202 | 243 | 1 L | 60 L | E | 40 |
| | Methacrylic Acid, stabilized | 8 | UN2531 | II | 8 | IB3, T4, TP1, TP18, TP 30 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| + | Methacrylonitrile, stabilized | 3 | UN3079 | I | 3, 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 12, 40, 48 |
| | Methallyl alcohol | 3 | UN2614 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Methane and hydrogen, mix- tures, see Hydrogen and methane, mixtures, etc.</i> | | | | | | | | | | | | |
| | Methane, compressed or Natural gas, compressed (<i>with high methane content</i>). | 2.1 | UN1971 | | 2.1 | | 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 | ..... | 2.1 | T75, TP5 | None | None | 318 | Forbidden | Forbidden | D | 40 |
| | Methanesulfonyl chloride | 6.1 | UN3246 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP2, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| + I | Methanol | 3 | UN1230 | II | 3, 6.1 | IB2, T7, TP2 | 150 | 202 | 242 | 1 L | 60 L | B | 40 |
| D | Methanol | 3 | UN1230 | II | 3 | IB2, T7, TP2 | 150 | 202 | 242 | 1 L | 60 L | B | 40 |
| | Methazoic acid | Forbidden | | | | | | | | | | | |
| | 4-Methoxy-4-methylpentan-2-one. | 3 | UN2293 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | 1-Methoxy-2-propanol | 3 | UN3092 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| + | Methoxymethyl isocyanate | 3 | UN2605 | I | 3, 6.1 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| | Methyl acetate | 3 | UN1231 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Methyl acetylene and propadiene mixtures, stabilized. | 2.1 | UN1060 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Methyl acrylate, stabilized | 3 | UN1919 | II | 3 | IB2, T4, TP1, TP13 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Methyl alcohol, see Methanol | | | | | | | | | | | | |
| | Methyl allyl chloride | 3 | UN2554 | II | 3 | IB2, T4, TP1, TP13 | 150 | 202 | 242 | 5 L | 60 L | E | |
| | Methyl amyl ketone, see Amyl methyl ketone. | | | | | | | | | | | | |
| | Methyl bromide | 2.3 | UN1062 | | 2.3 | 3, B14, T50, 153 | None | 193 | 314, 315. | Forbidden | Forbidden | 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 | 6.1 | 2, B9, B14, B32, B74, N65, T20, TP2, TP13, TP38, TP44 | None | 227 | 244 | Forbidden | Forbidden | C | 40 |
| | Methyl bromoacetate | 6.1 | UN2643 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | D | 40 |
| | 2-Methylbutanal | 3 | UN3371 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | 2-Methyl-1-butene | 3 | UN2459 | I | 3 | T11, TP2 | None | 201 | 243 | 1 L | 30 L | E | |
| | 2-Methyl-2-butene | 3 | UN2460 | II | 3 | IB2, T7, TP1 | None | 202 | 242 | 5 L | 60 L | E | |
| | 3-Methyl-1-butene | 3 | UN2561 | I | 3 | T11, TP2 | None | 201 | 243 | 1 L | 30 L | E | |
| | Methyl tert-butyl ether | 3 | UN2398 | II | 3 | IB2, T7, TP1 | 150 | 202 | 242 | 5 L | 60 L | E | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|---------------------------------------|---------------------------------------|---------------|------------------------|---|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Methyl butyrate | 3 | UN1237 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Methyl chloride, or Refrigerant gas R 40. <i>Methyl chloride and chloropicrin mixtures, see Chloropicrin and methyl chloride mixtures.</i> | 2.1 | UN1063 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | 5 kg | 100 kg | D | 40 |
| | Methyl chloride and methylene chloride mixtures. | 2.1 | UN1912 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | D | 40 |
| | Methyl chloroacetate | 6.1 | UN2295 | I | 6.1, 3 | T14, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | D | ..... |
| | <i>Methyl chlorocarbonate, see Methyl chloroformate.</i> <i>Methyl chloroform, see 1,1,1-Tri-chloroethane.</i> | | | | | | | | | | | | |
| | Methyl chloroformate | 6.1 | UN1238 | I | 6.1, 3, 8. | 1, B9, B14, B30, B72, N34, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 21, 40, 100 |
| | Methyl chloromethyl ether | 6.1 | UN1239 | I | 6.1, 3 | 1, B9, B14, B30, B72, T22, TP2, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| | Methyl 2-chloropropionate | 3 | UN2933 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Methyl dichloroacetate | 6.1 | UN2299 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | <i>Methyl ethyl ether, see Ethyl methyl ether.</i> <i>Methyl ethyl ketone, see Ethyl methyl ketone.</i> | | | | | | | | | | | | |
| | <i>Methyl ethyl ketone peroxide, in solution with more than 9 per-cent by mass active oxygen.</i> | Forbidden | | | | | | | | | | | |
| | 2-Methyl-5-ethylpyridine | 6.1 | UN2300 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Methyl fluoride, or Refrigerant gas R 41. | 2.1 | UN2454 | ..... | 2.1 | | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | Methyl formate | 3 | UN1243 | I | 3 | T11, TP2 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | 2-Methyl-2-heptanethiol | 6.1 | UN3023 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40, 102 |

| | | | | | | | | | | | | |
|---|-----------|--------|-------|-----------|--|-----------|-----------|-----------|-----------|-----------|---|--------|
| Methyl iodide | 6.1 | UN2644 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | A | 12, 40 |
| Methyl isobutyl carbinol | 3 | UN2053 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| Methyl isobutyl ketone | 3 | UN1245 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| <i>Methyl isobutyl ketone peroxide, in solution with more than 9 percent by mass active oxygen.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Methyl isocyanate | 6.1 | UN2480 | I | 6.1, 3 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 26, 40 |
| Methyl isopropenyl ketone, stabilized. | 3 | UN1246 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Methyl isothiocyanate | 6.1 | UN2477 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | A | ..... |
| Methyl isovalerate | 3 | UN2400 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| Methyl magnesium bromide, in ethyl ether. | 4.3 | UN1928 | I | 4.3, 3 | | None | 201 | 243 | Forbidden | 1 L | D | ..... |
| Methyl mercaptan | 2.3 | UN1064 | ..... | 2.3, 2.1. | 3, B7, B9, B14, T50 | None | 304 | 314, 315. | Forbidden | 25 kg | D | 40 |
| <i>Methyl mercaptopropionaldehyde, see Thia-4-pentanal.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Methyl methacrylate monomer, stabilized. | 3 | UN1247 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| <i>Methyl nitramine (dry)</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| <i>Methyl nitrate</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| <i>Methyl nitrite</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| <i>Methyl norbornene dicarboxylic anhydride, see Corrosive liquids, n.o.s..</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Methyl orthosilicate | 6.1 | UN2606 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | E | 40 |
| D Methyl phosphonic dichloride | 6.1 | NA9206 | I | 6.1, 8 | 2, A3, B9, B14, B32, B74, N34, N43, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | ..... |
| <i>Methyl phosphonothioic dichloride, anhydrous, see Corrosive liquid, n.o.s..</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|--------------|---|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| D | Methyl phosphonous dichloride, <i>pyrophoric liquid</i> . | 6.1 | NA2845 | I | 6.1, 4.2. | 2, B9, B14, B16, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 18 |
| | <i>Methyl picric acid (heavy metal salts of)</i> . | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Methyl propionate | 3 | UN1248 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Methyl propyl ether | 3 | UN2612 | II | 3 | IB2, T7, TP2 | 150 | 202 | 242 | 5 L | 60 L | E | 40 |
| | Methyl propyl ketone | 3 | UN1249 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | <i>Methyl sulfate, see Dimethyl sul- fate.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Methyl sulfide, see Dimethyl sul- fide.</i> | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Methyl trichloroacetate | 6.1 | UN2533 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | <i>Methyl trimethylol methane trinitrate.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Methyl vinyl ketone, stabilized ... | 6.1 | UN1251 | I | 6.1, 3, 8. | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | B | 40 |
| | Methylal | 3 | UN1234 | II | 3 | IB2, T7, TP2 | None | 202 | 242 | 5 L | 60 L | E | ..... |
| | Methylamine, anhydrous | 2.1 | UN1061 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Methylamine, aqueous solution | 3 | UN1235 | II | 3, 8 | B1, IB2, T7, TP1 | 150 | 202 | 243 | 1 L | 5 L | E | 41 |
| | <i>Methylamine dinitramine and dry salts thereof.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Methylamine nitroform</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Methylamine perchlorate (dry)</i> ... | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Methylamyl acetate | 3 | UN1233 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | N-Methylaniline | 6.1 | UN2294 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | alpha-Methylbenzyl alcohol | 6.1 | UN2937 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | 3-Methylbutan-2-one | 3 | UN2397 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | N-Methylbutylamine | 3 | UN2945 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| | Methylchlorosilane | 2.3 | UN2534 | ..... | 2.3, 2.1, 8. | 2, A2, A3, A7, B9, B14, N34 | None | 226 | 314, 315. | Forbidden | Forbidden | D | 17, 40 |
| | Methylcyclohexane | 3 | UN2296 | II | 3 | B1, IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Methylcyclohexanols, <i>flammable</i> | 3 | UN2617 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Methylcyclohexanone | 3 | UN2297 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | |
|---|--|-----------|--------|-----|---------------|-------|--|------|-----|------|-------|-----------|-----------|----|---------------------------|
| D | Methylcyclopentane | 3 | UN2298 | II | 3 | ..... | IB2, T4, TP1 | 150 | 202 | 242 | ..... | 5 L | 60 L | B | ..... |
| | Methyldichloroarsine | 6.1 | NA1556 | I | 6.1 | ..... | 2, T20, TP4, TP12, TP13, TP38, TP45 | None | 192 | None | ..... | Forbidden | Forbidden | D | 40 |
| | Methyldichlorosilane | 4.3 | UN1242 | I | 4.3, 8, 3. | ..... | A2, A3, A7, B6, B77, N34, T10, TP2, TP7, TP13 | None | 201 | 243 | ..... | Forbidden | 1 L | D | 21, 28, 40, 49, 100 |
| | <i>Methylene chloride, see</i> Dichloromethane. | | | | | | | | | | | | | | |
| | <i>Methylene glycol dinitrate</i> | Forbidden | | | | | | | | | | | | | |
| | 2-Methylfuran | 3 | UN2301 | II | 3 | ..... | IB2, T4, TP1 | 150 | 202 | 242 | ..... | 5 L | 60 L | E | ..... |
| | <i>a</i> -Methylglucoside tetranitrate | Forbidden | | | | | | | | | | | | | |
| | <i>a</i> -Methylglycerol trinitrate | Forbidden | | | | | | | | | | | | | |
| | 5-Methylhexan-2-one | 3 | UN2302 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | 203 | 242 | ..... | 60 L | 220 L | A | ..... |
| | Methylhydrazine | 6.1 | UN1244 | I | 6.1, 3, 8. | ..... | 1, B7, B9, B14, B30, B72, B77, N34, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | ..... | Forbidden | Forbidden | D | 21, 40, 49, 100 |
| | 4-Methylmorpholine or n- methylmorpholine. | 3 | UN2535 | II | 3, 8 | .... | B6, IB2, T7, TP1 | None | 202 | 243 | ..... | 1 L | 5 L | B | 40 |
| | Methylpentadienes | 3 | UN2461 | II | 3 | ..... | IB2, T4, TP1 | 150 | 202 | 242 | ..... | 5 L | 60 L | E | ..... |
| | 2-Methylpentan-2-ol | 3 | UN2560 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | 203 | 242 | ..... | 60 L | 220 L | A | ..... |
| | <i>Methylpentanes, see</i> Hexanes ... | | | | | | | | | | | | | | |
| | Methylphenyldichlorosilane | 8 | UN2437 | II | 8 | ..... | IB2, T7, TP2, TP13 | 154 | 202 | 242 | ..... | 1 L | 30 L | C | 40 |
| | 1-Methylpiperidine | 3 | UN2399 | II | 3, 8 | .... | IB2, T7, TP1 | None | 202 | 243 | ..... | 1 L | 5 L | B | ..... |
| | Methyltetrahydrofuran | 3 | UN2536 | II | 3 | ..... | IB2, T4, TP1 | 150 | 202 | 242 | ..... | 5 L | 60 L | B | ..... |
| | Methyltrichlorosilane | 3 | UN1250 | I | 3, 8 | .... | A7, B6, B77, N34, T11, TP2, TP13 | None | 201 | 243 | ..... | Forbidden | 2.5 L | B | 40 |
| | alpha-Methylvaleraldehyde | 3 | UN2367 | II | 3 | ..... | B1, IB2, T4, TP1 | 150 | 202 | 242 | ..... | 5 L | 60 L | B | ..... |
| | <i>Mine rescue equipment con-</i> <i>taining carbon dioxide, see</i> Carbon dioxide. | | | | | | | | | | | | | | |
| | <i>Mines with bursting charge</i> | 1.1F | UN0136 | II | 1.1F | ... | | | 62 | None | ..... | Forbidden | Forbidden | 08 | ..... |
| | <i>Mines with bursting charge</i> | 1.1D | UN0137 | II | 1.1D | .. | | | 62 | None | ..... | Forbidden | Forbidden | 03 | ..... |
| | <i>Mines with bursting charge</i> | 1.2D | UN0138 | II | 1.2D | .. | | | 62 | None | ..... | Forbidden | Forbidden | 03 | ..... |
| | <i>Mines with bursting charge</i> | 1.2F | UN0294 | II | 1.2F | ... | | | 62 | None | ..... | Forbidden | Forbidden | 08 | ..... |
| | <i>Mixed acid, see</i> Nitrating acid, mixtures etc. | | | | | | | | | | | | | | |
| | <i>Mobility aids, see</i> Battery powered equipment or Battery powered vehicle'. | | | | | | | | | | | | | | |
| D | Model rocket motor | 1.4C | NA0276 | II | 1.4C | .. | 51 | None | 62 | None | ..... | Forbidden | 75 kg | 06 | ..... |
| D | Model rocket motor | 1.4S | NA0323 | II | 1.4S | ... | 51 | None | 62 | None | ..... | 25 kg | 100 kg | 05 | ..... |
| | Molybdenum pentachloride | 8 | UN2508 | III | 8 | ..... | IB8, IP3, T4, TP1 | 154 | 213 | 240 | ..... | 25 kg | 100 kg | C | 40 |
| | <i>Monochloroacetone</i> (unstabilized). | Forbidden | | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-----|-------------|----------------------------------|--------------------------|-----------|------|--------------------------|-----------------------|-----------------------|--------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | <i>Monochloroethylene, see</i> Vinyl chloride, stabilized. | | | | | | | | | | | | |
| | <i>Monoethanolamine, see</i> Ethanolamine, solutions. | | | | | | | | | | | | |
| | <i>Monoethylamine, see</i> Ethylamine. | | | | | | | | | | | | |
| | Morpholine | 8 | UN2054 | I | 8, 3 | T10, TP2 | None | 201 | 243 | .5 L | 2.5 L | A | |
| | <i>Morpholine, aqueous, mixture, see</i> Corrosive liquids, n.o.s.. | | | | | | | | | | | | |
| | Motor fuel anti-knock compounds <i>see</i> Motor fuel anti-knock mixtures. | | | | | | | | | | | | |
| I | Motor fuel anti-knock mixtures ... | 6.1 | UN1649 | I | 6.1 | 14, 151, B9, B90, T14, TP2, TP13 | None | 201 | 244 | Forbidden | 30 L | D | 25, 40 |
| | Motor spirit, <i>see</i> Gasoline | | | | | | | | | | | | |
| | <i>Muriatic acid, see</i> Hydrochloric acid. | | | | | | | | | | | | |
| | Musk xylene, <i>see</i> 5-tert-Butyl-2,4,6-trinitro-m-xylene. | | | | | | | | | | | | |
| | <i>Naphtha see</i> Petroleum dis- tillates n.o.s.. | | | | | | | | | | | | |
| | Naphthalene, crude <i>or</i> Naphthalene, refined. | 4.1 | UN1334 | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | |
| | <i>Naphthalene diozonide</i> | Forbidden | | | | | | | | | | | |
| | beta-Naphthylamine | 6.1 | UN1650 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | alpha-Naphthylamine | 6.1 | UN2077 | III | 6.1 | IB8, IP3, T3, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| | Naphthalene, molten | 4.1 | UN2304 | III | 4.1 | A1, IB1, T1, TP3 | 151 | 213 | 241 | Forbidden | Forbidden | C | |
| | <i>Naphthylamineperchlorate</i> | Forbidden | | | | | | | | | | | |
| | Naphthylthiourea | 6.1 | UN1651 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Naphthylurea | 6.1 | UN1652 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | <i>Natural gases (with high meth- ane content), see</i> Methane, etc. (UN 1971, UN 1972). | | | | | | | | | | | | |
| | <i>Neohexane, see</i> Hexanes | | | | | | | | | | | | |
| | Neon, compressed | 2.2 | UN1065 | | 2.2 | | 306 | 302 | 302 | 75 kg | 150 kg | A | |
| | Neon, refrigerated liquid (<i>cryo- genic liquid</i>). | 2.2 | UN1913 | | 2.2 | T75, TP5 | 320 | 316 | None | 50 kg | 500 kg | B | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|--|-----------|--------|-----|--------|------------------------------|------|-----|------|-----------|-----------|---|--------|--|
| <i>New explosive or explosive device, see §§ 173.51 and 173.56.</i> | | | | | | | | | | | | | |
| Nickel carbonyl | 6.1 | UN1259 | I | 6.1, 3 | 1 | None | 198 | None | Forbidden | Forbidden | D | 18, 40 | |
| Nickel cyanide | 6.1 | UN1653 | II | 6.1 | IB8, IP2, IP4, N74, N75 | None | 212 | 242 | 25 kg | 100 kg | A | 26 | |
| Nickel nitrate | 5.1 | UN2725 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | | |
| Nickel nitrite | 5.1 | UN2726 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 56, 58 | |
| <i>Nickel picrate</i> | Forbidden | | | | | | | | | | | | |
| Nicotine | 6.1 | UN1654 | II | 6.1 | IB2 | 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 | 6.1 | A4 | None | 201 | 243 | 1 L | 30 L | B | 40 | |
| ..... |  |  | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 | |
| ..... |  |  | III | 6.1 | IB3, T7, TP1, TP28 | 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 | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | B | | |
| ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | | |
| ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | | |
| Nicotine hydrochloride or Nicotine hydrochloride solution. | 6.1 | UN1656 | II | 6.1 | IB2, IP2, IP4 | None | 202 | 243 | 5 L | 60 L | A | | |
| Nicotine salicylate | 6.1 | UN1657 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | | |
| Nicotine sulfate, <i>solid</i> | 6.1 | UN1658 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | | |
| Nicotine sulfate, <i>solution</i> | 6.1 | UN1658 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | | |
| Nicotine tartrate | 6.1 | UN1659 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | | |
| <i>Nitrated paper (unstable)</i> | Forbidden | | | | | | | | | | | | |
| Nitrates, inorganic, aqueous solution, n.o.s.. | 5.1 | UN3218 | II | 5.1 | 58, IB2, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | B | 46 | |
| ..... |  |  | III | 5.1 | 58, IB2, T4, TP1 | 152 | 203 | 241 | 2.5 L | 30 L | B | 46 | |
| Nitrates, inorganic, n.o.s. | 5.1 | UN1477 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | A | 46 | |
| ..... |  |  | III | 5.1 | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 46 | |
| <i>Nitrates of diazonium compounds.</i> | Forbidden | | | | | | | | | | | | |
| Nitrating acid mixtures, spent with more than 50 percent nitric acid. | 8 | UN1826 | I | 8, 5.1 | T10, TP2, TP12, TP13 | 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 | 8 | B2, IB2, T8, TP2, TP12 | None | 158 | 242 | Forbidden | 30 L | D | 40 | |
| Nitrating acid mixtures with more than 50 percent nitric acid. | 8 | UN1796 | I | 8, 5.1 | T10, TP2, TP12, TP13 | None | 158 | 243 | Forbidden | 2.5 L | D | 40, 66 | |
| Nitrating acid mixtures with not more than 50 percent nitric acid. | 8 | UN1796 | II | 8 | B2, IB2, T8, TP2, TP12, TP13 | None | 158 | 242 | Forbidden | 30 L | D | 40 | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|--------------|---|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|--------------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Nitric acid <i>other than red fuming, with more than 70 percent nitric acid.</i> | 8 | UN2031 | I | 8, 5.1 | B47, B53, T10, TP2, TP12, TP13 | None | 158 | 243 | Forbidden | 2.5 L | D | 44, 66, 89, 90, 110, 111 |
| | Nitric acid <i>other than red fuming, with not more than 70 percent nitric acid.</i> | 8 | UN2031 | II | 8 | B2, B47, B53, IB2, T8, TP2, TP12 | None | 158 | 242 | Forbidden | 30 L | D | 44, 66, 89, 90, 110, 111 |
| + | Nitric acid, red fuming | 8 | UN2032 | I | 8, 5.1, 6.1. | 2, B9, B32, B74, T20, TP2, TP12, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40, 66, 74, 89, 90 |
| | Nitric oxide, compressed | 2.3 | UN1660 | ..... | 2.3, 5.1, 8. | 1, B37, B46, B50, B60, B77 | None | 337 | None | Forbidden | Forbidden | D | 40, 89, 90 |
| | Nitric oxide and dinitrogen te- troxide mixtures or Nitric oxide and nitrogen dioxide mixtures. | 2.3 | UN1975 | ..... | 2.3, 5.1, 8. | 1, B7, B9, B14, B45, B46, B61, B66, B67, B77 | None | 337 | None | Forbidden | Forbidden | D | 40, 89, 90 |
| G | Nitriles, flammable, toxic, n.o.s. | 3 | UN3273 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | E | 40, 52 |
|  | ..... | ..... | ..... | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40, 52 |
| G | Nitriles, toxic, flammable, n.o.s. | 6.1 | UN3275 | I | 6.1, 3 | 5, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... | ..... | ..... | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| G | Nitriles, toxic, n.o.s. | 6.1 | UN3276 | I | 6.1 | 5, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | ..... |
|  | ..... | ..... | ..... | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | ..... |
|  | ..... | ..... | ..... | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Nitrites, inorganic, aqueous solu- tion, n.o.s.. | 5.1 | UN3219 | II | 5.1 | IB1, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | B | 46, 56, 58 |
|  | ..... | ..... | ..... | III | 5.1 | IB2, T4, TP1 | 152 | 203 | 241 | 2.5 L | 30 L | B | 46, 56, 58 |
| | Nitrites, inorganic, n.o.s. | 5.1 | UN2627 | II | 5.1 | 33, IB8, IP4 | 152 | 212 | None | 5 kg | 25 kg | A | 46, 56, 58 |
| | 3-Nitro-4-chlorobenzotrifluoride .. | 6.1 | UN2307 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-----------|--------|-------|-----------|------------------------|-----------|-----------|-----------|-----------|-----------|-------|-------|
| 6-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 | 1.1D .. | None | 62 | None | Forbidden | Forbidden | 10 | ..... | ..... |
| N-Nitroaniline | Forbidden |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| + Nitroanilines (o-; m-; p-;) | 6.1 | UN1661 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| + Nitroanisole | 6.1 | UN2730 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| + Nitrobenzene | 6.1 | UN1662 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| m-Nitrobenzene diazonium perchlorate. | Forbidden |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Nitrobenzenesulfonic acid | 8 | UN2305 | II | 8 | IB2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| Nitrobenzol, see Nitrobenzene ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 5-Nitrobenzotriazol | 1.1D | UN0385 | II | 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Nitrobenzotrifluorides | 6.1 | UN2306 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| Nitrobenzenes liquid | 6.1 | UN2732 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| Nitrobenzenes solid | 6.1 | UN2732 | III | 6.1 | IB8, IP3, T4, TP1 | 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 | 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 13 | 27E |
| Nitrocellulose membrane filters, with not more than 12.6% nitrogen, by dry mass. | 4.1 | UN3270 | II | 4.1 | 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 | 1.3C .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Nitrocellulose, solution, flammable with not more than 12.6 percent nitrogen, by mass, and not more than 55 percent nitrocellulose. | 3 | UN2059 | II | 3 | IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | | | | | | | | | | | | |
| Nitrocellulose, unmodified or plasticized with less than 18 percent plasticizing substance, by mass. | 1.1D | UN0341 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| ..... | ..... | ..... | II | 1.1D .. | ..... | None | 62 | None | Forbidden | Forbidden | 13 | 27E |
| Nitrocellulose, wetted with not less than 25 percent alcohol, by mass. | 1.3C | UN0342 | II | 1.3C .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| 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 | 4.1 ..... | ..... | 151 | 212 | None | 1 kg | 15 kg | D | 28 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|---|-----------------------------------|-----------------------------------|-----------|--------------------|--------------------------------------|--------------------------|-------------------|--------------|---------------------------------|-------------------------------|-----------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Nitrocellulose, <i>with not more than 12.6 percent nitrogen, by dry mass, or Nitrocellulose mixture with pigment or Nitrocellulose mixture with plasticizer or Nitrocellulose mixture with pigment and plasticizer.</i> | 4.1 | UN2557 | II | 4.1 | 44 | 151 | 212 | None | 1 kg | 15 kg | D | 28 |
| | Nitrocellulose with water <i>with not less than 25 percent water, by mass.</i> | 4.1 | UN2555 | II | 4.1 | | 151 | 212 | None | 15 kg | 50 kg | E | 28 |
| | <i>Nitrochlorobenzene, see Chloronitrobenzenes etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Nitrocresols | 6.1 | UN2446 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Nitroethane | 3 | UN2842 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | <i>Nitroethyl nitrate</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitroethylene polymer</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Nitrogen, compressed | 2.2 | UN1066 | ..... | 2.2 | | 306 | 302 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Nitrogen dioxide, <i>see Dinitrogen tetroxide.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitrogen fertilizer solution, see Fertilizer ammoniating solution etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitrogen, mixtures with rare gases, see Rare gases and nitrogen mixtures.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitrogen peroxide, see Dinitrogen tetroxide.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Nitrogen, refrigerated liquid <i>cryogenic liquid.</i> | 2.2 | UN1977 | ..... | 2.2 | T75, TP5 | 320 | 316 | 318 | 50 kg | 500 kg | D | ..... |
| | <i>Nitrogen tetroxide and nitric oxide mixtures, see Nitric oxide and nitrogen tetroxide mixtures.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitrogen tetroxide, see Dinitrogen tetroxide.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Nitrogen trichloride</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Nitrogen trifluoride | 2.2 | UN2451 | ..... | 2.2, 5.1. | ..... | None | 302 | None | 75 kg | 150 kg | D | 40 |

| | | | | | | | | | | | | |
|--|-----------|--------|---------------|------------------------------------|------|------|------|-----------|-----------|----|--------------------|--|
| Nitrogen triiodide | Forbidden | | | | | | | | | | | |
| Nitrogen triiodide monoamine | Forbidden | | | | | | | | | | | |
| Nitrogen trioxide | 2.3 | UN2421 | 2.3, 5.1, 8. | 1 | None | 336 | 245 | 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 1.1D, 6.1. | 125 | None | 62 | None | Forbidden | Forbidden | 13 | 21E | |
| Nitroglycerin, liquid, not desensitized. | Forbidden | | | | | | | | | | | |
| Nitroglycerin mixture, desensitized, liquid, flammable, n.o.s. with not more than 30 percent nitroglycerin, by mass. | 3 | UN3343 | 3 | 129 | None | 214 | None | Forbidden | Forbidden | D | | |
| Nitroglycerin mixture, desensitized, liquid, n.o.s. with not more than 30% nitroglycerin, by mass. | 3 | UN3357 | II 3 | 142 | None | 202 | 243 | 5 L | 60 L | E | | |
| Nitroglycerin mixture, desensitized, solid, n.o.s. with more than 2 percent but not more than 10 percent nitroglycerin, by mass. | 4.1 | UN3319 | II 4.1 | 118 | None | None | None | Forbidden | 0.5 kg | E | | |
| Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 5 percent nitroglycerin. | 3 | UN3064 | II 3 | N8 | 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 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | 21E | |
| Nitroglycerin solution in alcohol with not more than 1 percent nitroglycerin. | 3 | UN1204 | II 3 | IB2, N34 | 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 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | | |
| Nitroguanidine, wetted or Picrite, wetted with not less than 20 percent water, by mass. | 4.1 | UN1336 | I 4.1 | 23, A8, A19, A20, N41 | None | 211 | None | 1 kg | 15 kg | E | 28 | |
| 1-Nitrohydantoin | Forbidden | | | | | | | | | | | |
| Nitrohydrochloric acid | 8 | UN1798 | I 8 | A3, B10, N41, T10, TP2, TP12, TP13 | 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 3 | | 150 | 202 | None | Forbidden | 60 L | A | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | <i>Nitromuriatic acid, see</i> Nitrohydrochloric acid. | | | | | | | | | | | | |
| | Nitronaphthalene | 4.1 | UN2538 | III | 4.1 | A1, IB8, IP3 | 151 | 213 | 240 | 25 kg | 100 kg | A | |
| + | Nitrophenols (<i>o</i> -; <i>m</i> -; <i>p</i> -) | 6.1 | UN1663 | III | 6.1 | IB8, IP3, T4, TP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| | <i>m</i> -Nitrophenyldinitro methane | Forbidden | | | | | | | | | | | |
| | 4-Nitrophenylhydrazine, with not less than 30% water, by mass. | 4.1 | UN3376 | I | 4.1 | 162, A8, A19, A20, N41 | None | 211 | None | Forbidden | Forbidden | E | 36 |
| | Nitropropanes | 3 | UN2608 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| | <i>p</i> -Nitrosodimethylaniline | 4.2 | UN1369 | II | 4.2 | A19, A20, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | D | 34 |
| | Nitrostarch, dry or wetted with less than 20 percent water, by mass. | 1.1D | UN0146 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |
| | Nitrostarch, wetted with not less than 20 percent water, by mass. | 4.1 | UN1337 | I | 4.1 | 23, A8, A19, A20, N41 | None | 211 | None | 1 kg | 15 kg | D | 28 |
| | Nitrosugars (dry) | Forbidden | | | | | | | | | | | |
| | Nitrosyl chloride | 2.3 | UN1069 | | 2.3, 8 | 3, B14 | None | 304 | 314, 315. | Forbidden | Forbidden | D | 40 |
| | Nitrosylsulfuric acid | 8 | UN2308 | II | 8 | A3, A6, A7, B2, IB2, N34, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | D | 40, 66, 74, 89, 90 |
| | Nitrotoluenes, liquid <i>o</i> -; <i>m</i> -; <i>p</i> -; ... | 6.1 | UN1664 | II | 6.1 | IB2, IP2, IP4, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| | Nitrotoluenes, solid <i>m</i> -, or <i>p</i> - | 6.1 | UN1664 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Nitrotoluidines (mono) | 6.1 | UN2660 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| | Nitrotriazolone or NTO | 1.1D | UN0490 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 10 | |
| | <i>Nitrous oxide and carbon dioxide mixtures, see</i> Carbon dioxide and nitrous oxide mixtures. | | | | | | | | | | | | |
| | Nitrous oxide | 2.2 | UN1070 | | 2.2, 5.1 | | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | 40 |
| | Nitrous oxide, refrigerated liquid | 2.2 | UN2201 | | 2.2, 5.1 | B6, T75, TP5, TP22 | None | 304 | 314, 315. | Forbidden | Forbidden | B | 40 |
| | Nitroxylenes, (<i>o</i> -; <i>m</i> -; <i>p</i> -) | 6.1 | UN1665 | II | 6.1 | IB2, IP2, IP4, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| | <i>Nitroxylo, see</i> Nitroxylenes | | | | | | | | | | | | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | | | |
|---|-----------|--------|-------|--------|-------|-------------------------------------|-------|-------|-------|-------|-----------|-------|-----------|-----------|-----------|-------|--------|
| Nonanes | 3 | UN1920 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |  |
| <i>Non-flammable gas, n.o.s., see Compressed gas, etc. or Liquefied gas, etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>Nonliquefied gases, see Compressed gases, etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>Nonliquefied hydrocarbon gas, see Hydrocarbon gas mixture, compressed, n.o.s..</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Nonyltrichlorosilane | 8 | UN1799 | II | 8 | ..... | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | ..... | 202 | ..... | 242 | ..... | Forbidden | 30 L | C | 40 | |
| <i>Nordhausen acid, see Sulfuric acid, fuming etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| 2,5-Norbornadiene, stabilized, see Bicyclo 2,2,1 hepta-2,5-diene, stabilized. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Octadecyltrichlorosilane | 8 | UN1800 | II | 8 | ..... | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | ..... | 202 | ..... | 242 | ..... | Forbidden | 30 L | C | 40 | |
| Octadiene | 3 | UN2309 | II | 3 | ..... | B1, IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |  |
| <i>1,7-Octadine-3,5-diyne-1,8-dimethoxy-9-octadecynoic acid.</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Octafluorobut-2-ene or Refrigerant gas R 1318. | 2.2 | UN2422 | ..... | 2.2 | ..... | ..... | None | ..... | 304 | ..... | 314, 315. | ..... | 75 kg | 150 kg | A | ..... |  |
| Octafluorocyclobutane, or Refrigerant gas RC 318. | 2.2 | UN1976 | ..... | 2.2 | ..... | T50 | None | ..... | 304 | ..... | 314, 315. | ..... | 75 kg | 150 kg | A | ..... |  |
| Octafluoropropane or Refrigerant gas R 218. | 2.2 | UN2424 | ..... | 2.2 | ..... | T50 | None | ..... | 304 | ..... | 314, 315. | ..... | 75 kg | 150 kg | A | ..... |  |
| Octanes | 3 | UN1262 | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |  |
| Octogen, etc. see Cyclotetramethylene tetranitramine, etc.. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Octolite or Octol, dry or wetted with less than 15 percent water, by mass. | 1.1D | UN0266 | II | 1.1D | .. | ..... | None | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 10 | ..... |  |
| Octonal | 1.1D | UN0496 | ..... | 1.1D | .. | ..... | None | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 10 | ..... |  |
| Octyl aldehydes | 3 | UN1191 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |  |
| Octyltrichlorosilane | 8 | UN1801 | II | 8 | ..... | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | ..... | 202 | ..... | 242 | ..... | Forbidden | 30 L | C | 40 | |
| Oil gas, compressed | 2.3 | UN1071 | ..... | 2.3, | 2.1. | ..... | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 25 kg | D | 40 | |
| <i>Oleum, see Sulfuric acid, fuming</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>Organic peroxide type A, liquid or solid.</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| G Organic peroxide type B, liquid .. | 5.2 | UN3101 | II | 5.2, 1 | | | 53 | 152 | | 225 | | None | | Forbidden | Forbidden | D | 12, 40 |
| G Organic peroxide type B, liquid, temperature controlled. | 5.2 | UN3111 | II | 5.2, 1 | | | 53 | None | | 225 | | None | | Forbidden | Forbidden | D | 2, 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|--|-------|--------|-------|-----------|-------------------------------|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| G | Organic peroxide type B, solid ... | 5.2 | UN3102 | II | 5.2, 1 | 53 | 152 | 225 | None ... | Forbidden | Forbidden | D | 12, 40 |
| G | Organic peroxide type B, solid, temperature controlled. | 5.2 | UN3112 | II | 5.2, 1 | 53 | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type C, liquid | 5.2 | UN3103 | II | 5.2 | | 152 | 225 | None ... | 5 L | 10 L | D | 12, 40 |
| G | Organic peroxide type C, liquid, temperature controlled. | 5.2 | UN3113 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type C, solid .. | 5.2 | UN3104 | II | 5.2 | | 152 | 225 | None ... | 5 kg | 10 kg | D | 12, 40 |
| G | Organic peroxide type C, solid, temperature controlled. | 5.2 | UN3114 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type D, liquid | 5.2 | UN3105 | II | 5.2 | | 152 | 225 | None ... | 5 L | 10 L | D | 12, 40 |
| G | Organic peroxide type D, liquid, temperature controlled. | 5.2 | UN3115 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type D, solid .. | 5.2 | UN3106 | II | 5.2 | | 152 | 225 | None ... | 5 kg | 10 kg | D | 12, 40 |
| G | Organic peroxide type D, solid, temperature controlled. | 5.2 | UN3116 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type E, liquid .. | 5.2 | UN3107 | II | 5.2 | | 152 | 225 | None ... | 10 L | 25 L | D | 12, 40 |
| G | Organic peroxide type E, liquid, temperature controlled. | 5.2 | UN3117 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type E, solid ... | 5.2 | UN3108 | II | 5.2 | | 152 | 225 | None ... | 10 kg | 25 kg | D | 12, 40 |
| G | Organic peroxide type E, solid, temperature controlled. | 5.2 | UN3118 | II | 5.2 | | None ... | 225 | None ... | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type F, liquid .. | 5.2 | UN3109 | II | 5.2 | IB52, IP5, T23 | 152 | 225 | 225 | 10 L | 25 L | D | 12, 40 |
| G | Organic peroxide type F, liquid, temperature controlled. | 5.2 | UN3119 | II | 5.2 | IB52, IP5, T23 | None ... | 225 | 225 | Forbidden | Forbidden | D | 2, 40 |
| G | Organic peroxide type F, solid ... | 5.2 | UN3110 | II | 5.2 | IB52, T23 | 152 | 225 | 225 | 10 kg | 25 kg | D | 12, 40 |
| G | Organic peroxide type F, solid, temperature controlled. | 5.2 | UN3120 | II | 5.2 | IB52, T23 | None ... | 225 | 225 | Forbidden | Forbidden | D | 2 |
| 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 | ..... | 2.3 | 3 | None ... | 334 | None ... | Forbidden | Forbidden | D | 40 |
| | Organic pigments, self-heating ... | 4.2 | UN3313 | II | 4.2 | IB8, IP4 | None ... | 212 | 241 | 15 kg | 50 kg | C | ..... |
|  | ..... | ..... | ..... | III | 4.2 | IB8, IP3 | None ... | 213 | 241 | 25 kg | 100 kg | C | ..... |
| | Organoarsenic compound, n.o.s. | 6.1 | UN3280 | I | 6.1 | 5, IB7, IP1, T14, TP2, TP27 | None ... | 211 | 242 | 5 kg | 50 kg | B | ..... |
|  | ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4, T11, TP2, TP27 | None ... | 212 | 242 | 25 kg | 100 kg | B | ..... |

| | | | | | | | | | | | |
|---|--|--|---------------|-------------------------------|------|-----|-----|-----------|--------|---|-------|
| | | | III 6.1 | IB8, IP3, T7, TP1, TP28 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | | | I 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| | | | II 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | | | I 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | II 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | III 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | | | III 6.1, 3 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | | | II 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | III 6.1 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | | | I 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | II 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | | | III 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| G | | | I 4.3, 3 | T13, TP2, TP7 | None | 201 | 244 | Forbidden | 1 L | E | 40 |
| | | | II 4.3, 3 | IB1, IP2, T7, TP2, TP7 | None | 202 | 243 | 1 L | 5 L | E | 40 |
| | | | III 4.3, 3 | IB2, IP4, T7, TP2, TP7 | None | 203 | 242 | 5 L | 60 L | E | 40 |
| G | | | I 4.3, 4.1. | IB4, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40 |
| | | | II 4.3, 4.1. | IB4 | 151 | 212 | 242 | 15 kg | 50 kg | E | 40 |
| | | | III 4.3, 4.1. | IB6 | 151 | 213 | 241 | 25 kg | 100 kg | E | 40 |
| G | | | I 6.1 | IB7, IP1, T14, TP2, TP27 | None | 211 | 242 | 5 kg | 50 kg | B | ..... |
| | | | II 6.1 | IB8, IP2, IP4, T11, TP2, TP27 | None | 212 | 242 | 25 kg | 100 kg | B | ..... |
| | | | III 6.1 | IB8, IP3, T7, TP1, TP28 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | | | I 6.1, 3 | 5, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L 30 | L | B | 40 |
| | | | II 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Organophosphorus compound, toxic n.o.s.. | 6.1 | UN3278 | I | 6.1 | 5, IB7, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | ..... |
| | | | | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | 243 | 5 L | 60 L | B | ..... |
| | | | | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Organophosphorus pesticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 3 | UN2784 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| | | | | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Organophosphorus pesticides, liquid, toxic. | 6.1 | UN3018 | I | 6.1 | N76, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1 | IB2, N76, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1 | IB3, N76, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Organophosphorus pesticides, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN3017 | I | 6.1, 3 | N76, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1, 3 | IB2, N76, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1, 3 | B1, IB3, N76, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Organophosphorus pesticides, solid, toxic. | 6.1 | UN2783 | I | 6.1 | IB7, IP1, N77 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | | II | 6.1 | IB8, IP2, IP4, N77 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | | | | III | 6.1 | IB8, IP3, N77 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Organotin compounds, liquid, n.o.s.. | 6.1 | UN2788 | I | 6.1 | A3, N33, N34, T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1 | A3, IB2, N33, N34, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| | | | | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |

| | | | | | | | | | | | | | |
|-----|---|-----|--------|-----|-----------|---------------------------|------|-----|-----|-----------|----------|---|---------------------|
| | Organotin compounds, solid, n.o.s.. | 6.1 | UN3146 | I | 6.1 | A5, IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | B | 40 |
| | | | | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | | | | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Organotin pesticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 3 | UN2787 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| | | | | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Organotin pesticides, liquid, toxic. | 6.1 | UN3020 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Organotin pesticides, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN3019 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1, 3 | B1, IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Organotin pesticides, solid, toxic | 6.1 | UN2786 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | <i>Orthonitroaniline, see Nitroanilines etc.</i> | | | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Osmium tetroxide | 6.1 | UN2471 | I | 6.1 | A8, IB7, IP1, N33, N34 | None | 211 | 242 | 5 kg | 50 kg | B | 40 |
| D G | Other regulated substances, liquid, n.o.s.. | 9 | NA3082 | III | 9 | IB3, T2, TP1 | 155 | 203 | 241 | No limit | No limit | A | ..... |
| D G | Other regulated substances, solid, n.o.s.. | 9 | NA3077 | III | 9 | B54, IB8, IP2 | 155 | 213 | 240 | No limit | No limit | A | ..... |
| G | Oxidizing liquid, corrosive, n.o.s. | 5.1 | UN3098 | I | 5.1, 8 | | None | 201 | 244 | Forbidden | 2.5 L | D | 13, 56, 58, 69, 106 |
| | | | | II | 5.1, 8 | IB1 | None | 202 | 243 | 1 L | 5 L | B | 34, 56, 58, 69, 106 |
| | | | | III | 5.1, 8 | IB2 | 152 | 203 | 242 | 2.5 L | 30 L | B | 34, 56, 58, 69, 106 |
| G | Oxidizing liquid, n.o.s. | 5.1 | UN3139 | I | 5.1 | 127, A2 | None | 201 | 243 | Forbidden | 2.5 L | D | 56, 58, 69, 106 |
| | | | | II | 5.1 | 127, A2, IB2 | 152 | 202 | 242 | 1 L | 5 L | B | 56, 58, 69, 106 |
| | | | | III | 5.1 | 127, A2, IB2 | 152 | 203 | 241 | 2.5 L | 30 L | B | 56, 58, 69, 106 |
| G | Oxidizing liquid, toxic, n.o.s. | 5.1 | UN3099 | I | 5.1, 6.1. | | None | 201 | 244 | Forbidden | 2.5 L | D | 56, 58, 69, 106 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-----|--------|-----|--------------|---------------|-----------------------------|--------------|--------------|-----------------------------|--------------------------|------------------------|-------------------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Oxidizing solid, corrosive, n.o.s. | 5.1 | UN3085 | II | 5.1, 6.1. | IB1 | None | 202 | 243 | 1 L | 5 L | B | 56, 58, 95, 106 |
| | | | | III | 5.1, 6.1. | IB2 | 152 | 203 | 242 | 2.5 L | 30 L | B | 56, 58, 95, 106 |
| | | | | I | 5.1, 8 | | None | 211 | 242 | 1 kg | 15 kg | D | 13, 56, 58, 69, 106 |
| | | | | II | 5.1, 8 | IB6, IP2 | None | 212 | 242 | 5 kg | 25 kg | B | 13, 34, 56, 58, 69, 106 |
| G | Oxidizing solid, flammable, n.o.s.. | 5.1 | UN3137 | III | 5.1, 8 | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | B | 13, 34, 56, 58, 69, 106 |
| | | | | I | 5.1, 4.1. | | None | 214 | 214 | Forbidden | Forbidden | | |
| G | Oxidizing solid, n.o.s. | 5.1 | UN1479 | I | 5.1 | IB6, IP1 | None | 211 | 242 | 1 kg | 15 kg | D | 56, 58, 69, 106 |
| G | Oxidizing solid, self-heating, n.o.s.. | 5.1 | UN3100 | II | 5.1 | IB8, IP2, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | B | 56, 58, 69, 106 |
| | | | | III | 5.1 | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | B | 56, 58, 69, 106 |
| | | | | II | 5.1, 4.2. | | None | 214 | 214 | Forbidden | Forbidden | | |
| G | Oxidizing solid, toxic, n.o.s. | 5.1 | UN3087 | I | 5.1, 6.1. | | None | 211 | 242 | 1 kg | 15 kg | D | 56, 58, 69, 106 |
| G | Oxidizing solid, water-reactive, n.o.s.. Oxygen and carbon dioxide mix- tures, see Carbon dioxide and oxygen mixtures. | 5.1 | UN3121 | II | 5.1, 6.1. | IB6, IP2 | None | 212 | 242 | 5 kg | 25 kg | B | 56, 58, 69, 95, 106 |
| | | | | III | 5.1, 6.1. | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | B | 56, 58, 69, 95, 106 |
| | | | | | 5.1, 4.3. | | None | 214 | 214 | Forbidden | Forbidden | | |
| | Oxygen, compressed | 2.2 | UN1072 | | 2.2, 5.1. | A52 | 306 | 302 | 314, 315. | 75 kg | 150 kg | A | |

| | | | | | | | | | | | | | | | | | |
|-----|--|-----------|--------|-------|--------------------|-------|--------------------------------|------|-------|-------|-------|------|-----------|-----------|-------------|-------------------|--------------------|
| | Oxygen difluoride, compressed | 2.3 | UN2190 | ..... | 2.3, 5.1, 8. | 1 | None | .... | 304 | ..... | None | .... | Forbidden | Forbidden | D | 13, 40, 89, 90 | |
| | Oxygen generator, chemical (<i>including when contained in associated equipment, e.g., passenger service units (PSUs), portable breathing equipment (PBE), etc.</i>).. | 5.1 | UN3356 | II | 5.1 | ..... | 60, A51 | None | .... | 212 | ..... | None | .... | Forbidden | 25 kg gross | D | 56, 58, 69, 106 |
| + | Oxygen generator, chemical, spent. | 9 | NA3356 | III | 9 | ..... | 61 | None | .... | 213 | ..... | None | .... | Forbidden | Forbidden | A | ..... |
| | Oxygen, mixtures with rare gases, see Rare gases and oxygen mixtures. | | | | | | | | | | | | | | | | |
| | Oxygen, refrigerated liquid (<i>cryogenic liquid</i>). | 2.2 | UN1073 | ..... | 2.2, 5.1. | | T75, TP5, TP22 | 320 | ..... | 316 | ..... | 318 | ..... | Forbidden | Forbidden | D | ..... |
| | Paint including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base. | 3 | UN1263 | II | 3 | ..... | 149, B52, IB2, T4, TP1, TP8 | 150 | ..... | 173 | ..... | 242 | ..... | 5 L | 60 L | B | |
| | Paint or Paint related material .. | 8 | UN3066 | II | 8 | ..... | B2, IB2, T7, TP2 | 154 | ..... | 173 | ..... | 242 | ..... | 1 L | 30 L | A | ..... |
| | | | | III | 8 | ..... | B52, IB3, T4, TP1 | 154 | ..... | 173 | ..... | 241 | ..... | 5 L | 60 L | A | ..... |
| | Paint related material including paint thinning, drying, removing, or reducing compound. | 3 | UN1263 | II | 3 | ..... | 149, B52, IB2, T4, TP1, TP8 | 150 | ..... | 173 | ..... | 242 | ..... | 5 L | 60 L | B | |
| | Paper, unsaturated oil treated incompletely dried (<i>including carbon paper</i>). | 4.2 | UN1379 | III | 4.2 | ..... | IB8, IP3 | None | .... | 213 | ..... | 241 | ..... | Forbidden | Forbidden | A | ..... |
| | Paraformaldehyde | 4.1 | UN2213 | III | 4.1 | ..... | A1, IB8, IP3 | 151 | ..... | 213 | ..... | 240 | ..... | 25 kg | 100 kg | A | ..... |
| | Paraldehyde | 3 | UN1264 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| | Paranitroaniline, solid, see Nitroanilines etc. | | | | | | | | | | | | | | | | |
| D | Parathion and compressed gas mixture. | 2.3 | NA1967 | ..... | 2.3 | ..... | 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 | 4.2, 6.1. | | 1 | None | .... | 205 | ..... | 245 | ..... | Forbidden | Forbidden | D | ..... |
| | Pentachloroethane | 6.1 | UN1669 | II | 6.1 | ..... | IB2, T7, TP2 | None | .... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | 40 |
| | Pentachlorophenol | 6.1 | UN3155 | II | 6.1 | ..... | IB8, IP2, IP4 | None | .... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| | Pentaerythrite tetranitrate (<i>dry</i>) .. | Forbidden | | | | | | | | | | | | | | | |
| | Pentaerythrite tetranitrate mixture, desensitized, solid, n.o.s. with more than 10 percent but not more than 20 percent PETN, by mass. | 4.1 | UN3344 | II | 4.1 | ..... | 118, N85 | None | .... | 214 | ..... | None | .... | Forbidden | Forbidden | E | |

| | | | | | | | | | | | | |
|---|-----------|--------|-----|----------|---|------|---------------|----------|-----------|-----------|---|----------------------|
| Perchlorates, inorganic, n.o.s. ... | 5.1 | UN1481 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 46, 56 |
| ..... | Forbidden | | III | 5.1 | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 46, 56 |
| <i>Perchloric acid, with more than 72 percent acid by mass.</i> | | | | | | | | | | | | |
| <i>Perchloric acid with more than 50 percent but not more than 72 percent acid, by mass.</i> | 5.1 | UN1873 | I | 5.1, 8 | A2, A3, N41, T10, TP1, TP12 | None | 201 | 243 | Forbidden | 2.5 L | D | 66 |
| <i>Perchloric acid with not more than 50 percent acid by mass.</i> | 8 | UN1802 | II | 8, 5.1 | IB2, N41, T7, TP2 | None | 202 | 243 | Forbidden | 30 L | C | 66 |
| <i>Perchloroethylene, see Tetrachloroethylene.</i> | | | | | | | | | | | | |
| Perchloromethyl mercaptan | 6.1 | UN1670 | I | 6.1 | 2, A3, A7, B9, B14, B32, B74, N34, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| Perchloryl fluoride | 2.3 | UN3083 | | 2.3, 5.1 | 2, B9, B14 | None | 302 | 314, 315 | Forbidden | Forbidden | D | 40 |
| <i>Percussion caps, see Primers, cap type.</i> | | | | | | | | | | | | |
| <i>Perfluoro-2-butene, see Octafluorobut-2-ene.</i> | | | | | | | | | | | | |
| Perfluoro(ethyl vinyl ether) | 2.1 | UN3154 | | 2.1 | | 306 | 302, 304, 305 | 314, 315 | Forbidden | 150 kg | E | 40 |
| Perfluoro(methyl vinyl ether) | 2.1 | UN3153 | | 2.1 | T50 | 306 | 302, 304, 305 | 314, 315 | Forbidden | 150 kg | E | 40 |
| Perfumery products with flammable solvents. | 3 | UN1266 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 15 L | 60 L | B | |
| Permanganates, inorganic, aqueous solution, n.o.s.. | 5.1 | UN3214 | II | 5.1 | 26, IB2, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | D | 56, 58, 69, 106, 107 |
| Permanganates, inorganic, n.o.s.. | 5.1 | UN1482 | II | 5.1 | 26, A30, IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |
| ..... |  |  | III | 5.1 | 26, A30, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | D | 56, 58, 69, 106, 107 |
| Peroxides, inorganic, n.o.s. | 5.1 | UN1483 | II | 5.1 | A7, A20, IB6, IP2, N34 | None | 212 | 242 | 5 kg | 25 kg | A | 13, 75, 106 |
| ..... | Forbidden | | III | 5.1 | A7, A20, IB8, IP3, N34 | 152 | 213 | 240 | 25 kg | 100 kg | A | 13, 75, 106 |
| <i>Peroxyacetic acid, with more than 43 percent and with more than 6 percent hydrogen peroxide.</i> | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------------------------|--|-----------------------------------|-----------------------------------|-----------|--------------------|--------------------------------------|-----------------------------|-------------------|--------------|---------------------------------|-------------------------------|--------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| G | Persulfates, inorganic, aqueous solution, n.o.s.. | 5.1 | UN3216 | III | 5.1 | IB2, T4, TP1, TP29 | 152 | 203 | 241 | 2.5 L | 30 L | A | ..... |
| | Persulfates, inorganic, n.o.s. | 5.1 | UN3215 | III | 5.1 | IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Pesticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 3 | UN3021 | I | 3, 6.1 | B5, T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | ..... |
| G | ..... | ..... | ..... | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | ..... |
| | Pesticides, liquid, toxic, flammable, n.o.s. flash point not less than 23 degrees C. | 6.1 | UN2903 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| G | ..... | ..... | ..... | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1, 3 | B1, IB3, T7, TP2 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Pesticides, liquid, toxic, n.o.s. | 6.1 | UN2902 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| G | ..... | ..... | ..... | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Pesticides, solid, toxic, n.o.s. | 6.1 | UN2588 | I | 6.1 | IB7 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| G | ..... | ..... | ..... | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
|  | ..... | ..... | ..... | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | PETN, see Pentaerythrite tetranitrate. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| PETN/TNT, see Pentolite, etc .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Petrol, see Gasoline ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| G | Petroleum crude oil | 3 | UN1267 | I | 3 | 144, T11, TP1, TP8 | None | 201 | 243 | 1 L | 30 L | E | ..... |
|  | ..... | ..... | ..... | II | 3 | 144, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... | ..... | ..... | II | 3 | 144, B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
|  | ..... | ..... | ..... | I | 3 | 144, T11, TP1, TP8 | 150 | 201 | 243 | 1 L | 30 L | E | ..... |
| | Petroleum distillates, n.o.s or Petroleum products, n.o.s. | 3 | UN1268 | II | 3 | 144, IB2, T7, TP1, TP8, TP28 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| G | ..... | ..... | ..... | III | 3 | 144, B1, IB3, T4, TP1, TP29 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |

| | | | | | | | | | | | | | | | | |
|---|--|-----|--------|-------|--------|-------|---|------|-------|-----|-------|-----------|-----------|-----------|---|-------------------------|
| | Petroleum gases, liquefied or Liquefied petroleum gas. | 2.1 | UN1075 | ..... | 2.1 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | Forbidden | 150 kg | E | 40 |
| D | Petroleum oil | 3 | NA1270 | I | 3 | ..... | 144, T11, TP1, TP9 | None | ..... | 201 | ..... | 243 | 1 L | 30 L | E | ..... |
| | | | | II | 3 | ..... | 144, IB2, T7, TP1, TP8, TP28 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | B | ..... |
| | | | | III | 3 | ..... | 144, B1, IB3, T4, TP1, TP29 | 150 | ..... | 203 | ..... | 242 | 60 L | 220 L | A | ..... |
| | Phenacyl bromide | 6.1 | UN2645 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | 25 kg | 100 kg | B | 40 |
| + | Phenetidines | 6.1 | UN2311 | III | 6.1 | ..... | IB3, T4, TP1 | 153 | ..... | 203 | ..... | 241 | 60 L | 220 L | A | ..... |
| | Phenol, molten | 6.1 | UN2312 | II | 6.1 | ..... | B14, T7, TP3 | None | ..... | 202 | ..... | 243 | Forbidden | Forbidden | B | 40 |
| + | Phenol, solid | 6.1 | UN1671 | II | 6.1 | ..... | IB8, IP2, IP4, N78, T6, TP2 | None | ..... | 212 | ..... | 242 | 25 kg | 100 kg | A | ..... |
| | Phenol solutions | 6.1 | UN2821 | II | 6.1 | ..... | IB2, T7, TP2 | None | ..... | 202 | ..... | 243 | 5 L | 60 L | A | ..... |
| | | | | III | 6.1 | ..... | IB3, T4, TP1 | 153 | ..... | 203 | ..... | 241 | 60 L | 220 L | A | ..... |
| | Phenolsulfonic acid, liquid | 8 | UN1803 | II | 8 | ..... | B2, IB2, N41, T7, TP2 | 154 | ..... | 202 | ..... | 242 | 1 L | 30 L | C | 14 |
| | Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic flash point less than 23 degrees C.. | 3 | UN3346 | I | 3, 6.1 | ..... | T14, TP2, TP13, TP27 | None | ..... | 201 | ..... | 243 | Forbidden | 30 L | B | 40 |
| | | | | II | 3, 6.1 | ..... | IB2, T11, TP2, TP13, TP27 | None | ..... | 202 | ..... | 243 | 1 L | 60 L | B | 40 |
| | Phenoxyacetic acid derivative pesticide, liquid, toxic. | 6.1 | UN3348 | I | 6.1 | ..... | T14, TP2, TP13, TP27 | None | ..... | 201 | ..... | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1 | ..... | IB2, T11, TP2, TP27 | 153 | ..... | 202 | ..... | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1 | ..... | IB3, T7, TP2, TP28 | 153 | ..... | 203 | ..... | 241 | 60 L | 220 L | A | 40 |
| | Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN3347 | I | 6.1, 3 | ..... | T14, TP2, TP13, TP27 | None | ..... | 201 | ..... | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1, 3 | ..... | IB2, T11, TP2, TP13, TP27 | 153 | ..... | 202 | ..... | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1, 3 | ..... | IB3, T7, TP2, TP28 | 153 | ..... | 203 | ..... | 241 | 60 L | 220 L | A | 40 |
| | Phenoxyacetic acid derivative pesticide, solid, toxic. | 6.1 | UN3345 | I | 6.1 | ..... | IB7, IP1 | None | ..... | 211 | ..... | 242 | 5 kg | 50 kg | A | 40 |
| | | | | II | 6.1 | ..... | IB8, IP2, IP4 | 153 | ..... | 212 | ..... | 242 | 25 kg | 100 kg | A | 40 |
| | | | | III | 6.1 | ..... | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | 100 kg | 200 kg | A | 40 |
| | Phenyl chloroformate | 6.1 | UN2746 | II | 6.1, 8 | ..... | IB2, T7, TP2, TP13 | None | ..... | 202 | ..... | 243 | 1 L | 30 L | A | 12, 13, 21, 25, 40, 100 |
| | Phenyl isocyanate | 6.1 | UN2487 | I | 6.1, 3 | ..... | 2, B9, B14, B32, B74, B77, N33, N34, T20, TP2, TP13, TP38, TP45 | None | ..... | 227 | ..... | 244 | Forbidden | Forbidden | D | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descriptions and proper shipping names (2) | Hazard class or Division (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|-----------------|---|---------------------------------|---------------------------------|-----------|--------------------|---|--------------------------|------------------|--------------|---------------------------------|------------------------------|----------------------|----------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Phenyl mercaptan | 6.1 | UN2337 | I | 6.1, 3 | 2, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | B | 26, 40 |
| | Phenyl phosphorus dichloride | 8 | UN2798 | II | 8 | B2, B15, IB2, T7, TP2 | 154 | 202 | 242 | Forbidden | 30 L | B | 40 |
| | Phenyl phosphorus thiodichloride. | 8 | UN2799 | II | 8 | B2, B15, IB2, T7, TP2 | 154 | 202 | 242 | Forbidden | 30 L | B | 40 |
| | Phenyl urea pesticides, liquid, toxic. | 6.1 | UN3002 | I | 6.1 | T14, TP2, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | T7, TP2 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Phenylacetoneitrile, liquid | 6.1 | UN2470 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 26 |
| | Phenylacetyl chloride | 8 | UN2577 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | Phenylcarbylamine chloride | 6.1 | UN1672 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | <i>m</i> -Phenylene diaminediperchlorate (dry). | Forbidden | | | | | | | | | | | |
| + | Phenylenediamines (<i>o</i> -, <i>m</i> -, <i>p</i> -) | 6.1 | UN1673 | III | 6.1 | IB8, IP3, T7, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| | Phenylhydrazine | 6.1 | UN2572 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | 40 |
| | Phenylmercuric acetate | 6.1 | UN1674 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Phenylmercuric compounds, n.o.s.. | 6.1 | UN2026 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | |
| | Phenylmercuric hydroxide | 6.1 | UN1894 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Phenylmercuric nitrate | 6.1 | UN1895 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Phenyltrichlorosilane | 8 | UN1804 | II | 8 | A7, B6, IB2, N34, T7, TP2 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| | Phosgene | 2.3 | UN1076 | | 2.3, 8 | 1, B7, B46 | None | 192 | 314 | Forbidden | Forbidden | D | 40 |
| | 9-Phosphabicyclononanes or Cyclooctadiene phosphines. | 4.2 | UN2940 | II | 4.2 | A19, IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | A | |
| | Phosphine | 2.3 | UN2199 | | 2.3, 2.1. | 1 | None | 192 | 245 | Forbidden | Forbidden | D | 40 |
| | Phosphoric acid, liquid | 8 | UN1805 | III | 8 | A7, IB3, IP3, N34, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | |
| | Phosphoric acid, solid | 8 | UN1805 | III | 8 | IB8, IP3, T3, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----|--------|-------|-----------|---|------|-----------|-----------|-----------|-----------|---|--------|
| <i>Phosphoric acid triethyleneimine, see</i> Tris-(1-aziridyl)phosphine oxide, solution. | | | | | | | | | | | | |
| <i>Phosphoric anhydride, see</i> Phosphorus pentoxide. | | | | | | | | | | | | |
| Phosphorous acid | 8 | UN2834 | III | 8 | IB8, IP3, T3, TP1 | 154 | 213 | 240 | 25 kg | 100 kg | A | 48 |
| Phosphorus, amorphous | 4.1 | UN1338 | III | 4.1 | A1, A19, B1, B9, B26, IB8, IP3 | None | 213 | 243 | 25 kg | 100 kg | A | 74 |
| <i>Phosphorus bromide, see</i> Phosphorus tribromide. | | | | | | | | | | | | |
| <i>Phosphorus chloride, see</i> Phosphorus trichloride. | | | | | | | | | | | | |
| Phosphorus heptasulfide, <i>free from yellow or white phosphorus.</i> | 4.1 | UN1339 | II | 4.1 | A20, IB4, N34 | None | 212 | 240 | 15 kg | 50 kg | B | 74 |
| Phosphorus oxybromide | 8 | UN1939 | II | 8 | B8, IB8, IP2, IP4, N41, N43, T7, TP2 | None | 212 | 240 | Forbidden | 50 kg | C | 12, 40 |
| Phosphorus oxybromide, molten | 8 | UN2576 | II | 8 | B2, B8, IB1, N41, N43, T7, TP3, TP13 | None | 202 | 242 | Forbidden | Forbidden | C | 40 |
| + Phosphorus oxychloride | 8 | UN1810 | II | 8, 6.1 | 2, A7, B9, B14, B32, B74, B77, N34, T20, TP2, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | 40 |
| Phosphorus pentabromide | 8 | UN2691 | II | 8 | A7, IB8, IP2, IP4, N34 | 154 | 212 | 240 | Forbidden | 50 kg | B | 12, 40 |
| Phosphorus pentachloride | 8 | UN1806 | II | 8 | A7, IB8, IP2, IP4, N34 | None | 212 | 240 | Forbidden | 50 kg | C | 40 |
| Phosphorus pentafluoride | 2.3 | UN2198 | ..... | 2.3, 8 | 2, B9, B14 | None | 302, 304. | 314, 315. | Forbidden | Forbidden | D | 40 |
| Phosphorus pentasulfide, <i>free from yellow or white phosphorus.</i> | 4.3 | UN1340 | II | 4.3, 4.1. | A20, B59, IB4 | 151 | 212 | 242 | 15 kg | 50 kg | B | 74 |
| Phosphorus pentoxide | 8 | UN1807 | II | 8 | A7, IB8, IP2, IP4, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| Phosphorus sesquisulfide, <i>free from yellow or white phosphorus.</i> | 4.1 | UN1341 | II | 4.1 | A20, IB4, N34 | None | 212 | 240 | 15 kg | 50 kg | B | 74 |
| Phosphorus tribromide | 8 | UN1808 | II | 8 | A3, A6, A7, B2, B25, IB2, N34, N43, T7, TP2 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| Phosphorus trichloride | 6.1 | UN1809 | I | 6.1, 8 | 2, B9, B14, B15, B32, B74, B77, N34, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | 40 |
| Phosphorus trioxide | 8 | UN2578 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | 12 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Phosphorus trisulfide, <i>free from yellow or white phosphorus.</i> | 4.1 | UN1343 | II | 4.1 | A20, IB4, N34 | None | 212 | 240 | 15 kg | 50 kg | B | 74 |
| | Phosphorus, white dry or Phos- phorus, 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 | 4.2, 6.1. | B9, B26, N34, T9, TP3, TP31 | None | 188 | 243 | Forbidden | Forbidden | E | |
| | Phosphorus white, molten | 4.2 | UN2447 | I | 4.2, 6.1. | B9, B26, N34, T21, TP3, TP7, TP26 | None | 188 | 243 | Forbidden | Forbidden | D | ..... |
| | <i>Phosphorus (white or red) and a chlorate, mixtures of.</i> | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | <i>Phosphoryl chloride, see Phos- phorus oxychloride.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Phthalic anhydride <i>with more than .05 percent maleic anhy- dride.</i> | 8 | UN2214 | III | 8 | IB8, IP3, T4, TP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Picolines | 3 | UN2313 | III | 3 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Picric acid, <i>see</i> Trinitrophenol, <i>etc.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Picrite, <i>see</i> Nitroguanidine, <i>etc.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Picryl chloride, <i>see</i> Trinitrochlorobenzene. |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Pine oil | 3 | UN1272 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | alpha-Pinene | 3 | UN2368 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Piperazine | 8 | UN2579 | III | 8 | IB8, IP3, T4, TP1, TP30 | 154 | 213 | 240 | 25 kg | 100 | A | 12 |
| | Piperidine | 8 | UN2401 | I | 8, 3 | T10, TP2 | None | 201 | 243 | 0.5 L | 2.5 L | B | ..... |
| | <i>Pivaloyl chloride, see Trimethylacetyl chloride.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| | Plastic molding compound <i>in dough, sheet or extruded rope form evolving flammable vapor.</i> | 9 | UN3314 | III | 9 | 32, IB8, IP6 | 155 | 221 | 221 | 100 kg | 200 kg | A | 85, 87 |
| | <i>Plastic solvent, n.o.s., see Flam- mable liquids, n.o.s..</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | | |
|--|-----------|--------|-------|-------|-------|--|-------|-------|-------|-------|-------|-----------|-----------|--------|-------|-----------------|
| Plastics, nitrocellulose-based, self-heating, n.o.s. | 4.2 | UN2006 | III | 4.2 | ..... | None | ..... | 213 | ..... | None | ..... | Forbidden | Forbidden | C | ..... |  |
| <i>Poisonous gases, n.o.s., see Compressed or liquefied gases, flammable or toxic, n.o.s..</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| <i>Polyalkylamines, n.o.s., see Amines, etc.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Polychlorinated biphenyls, liquid | 9 | UN2315 | II | 9 | ..... | 9, 81, 140, IB3, T4, TP1 | 155 | ..... | 202 | ..... | 241 | ..... | 100 L | 220 L | A | 95 |
| Polychlorinated biphenyls, solid | 9 | UN2315 | II | 9 | ..... | 9, 81, 140, IB7 | 155 | ..... | 212 | ..... | 240 | ..... | 100 kg | 200 kg | A | 95 |
| Polyester resin kit | 3 | UN3269 | ..... | 3 | ..... | 40 | 152 | ..... | 225 | ..... | None | ..... | 5 kg | 5 kg | B | ..... |
| Polyhalogenated biphenyls, liquid or Polyhalogenated terphenyls liquid. | 9 | UN3151 | II | 9 | ..... | IB3 | 155 | ..... | 204 | ..... | 241 | ..... | 100 L | 220 L | A | 95 |
| Polyhalogenated biphenyls, solid or Polyhalogenated terphenyls, solid. | 9 | UN3152 | II | 9 | ..... | IB8, IP2, IP4 | 155 | ..... | 204 | ..... | 241 | ..... | 100 kg | 200 kg | A | 95 |
| Polymeric beads, expandable, evolving flammable vapor. | 9 | UN2211 | III | 9 | ..... | 32, IB8, IP6, IP7 | 155 | ..... | 221 | ..... | 221 | ..... | 100kg | 200kg | A | 85, 87 |
| Potassium | 4.3 | UN2257 | I | 4.3 | ..... | A19, A20, B27, IB1, IP1, N6, N34, T9, TP3, TP7, TP31 | None | ..... | 211 | ..... | 244 | ..... | Forbidden | 15 kg | D | ..... |
| Potassium arsenate | 6.1 | UN1677 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| Potassium arsenite | 6.1 | UN1678 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| <i>Potassium bisulfite solution, see Bisulfites, aqueous solutions, n.o.s..</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Potassium borohydride | 4.3 | UN1870 | I | 4.3 | ..... | A19, N40 | None | ..... | 211 | ..... | 242 | ..... | Forbidden | 15 kg | E | ..... |
| Potassium bromate | 5.1 | UN1484 | II | 5.1 | ..... | IB8, IP4 | 152 | ..... | 212 | ..... | 242 | ..... | 5 kg | 25 kg | A | 56, 58, 106 |
| <i>Potassium carbonyl</i> | Forbidden | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Potassium chlorate | 5.1 | UN1485 | II | 5.1 | ..... | A9, IB8, IP4, N34 | 152 | ..... | 212 | ..... | 242 | ..... | 5 kg | 25 kg | A | 56, 58, 106 |
| Potassium chlorate, aqueous solution. | 5.1 | UN2427 | II | 5.1 | ..... | A2, IB2, T4, TP1 | 152 | ..... | 202 | ..... | 241 | ..... | 1 L | 5 L | B | 56, 58, 106 |
| ..... | ..... | ..... | III | 5.1 | ..... | A2, IB2, T4, TP1 | 152 | ..... | 203 | ..... | 241 | ..... | 2.5 L | 30 L | B | 56, 58, 69, 106 |
| <i>Potassium chlorate mixed with mineral oil, see Explosive, blasting, type C.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Potassium cuprocyanide | 6.1 | UN1679 | II | 6.1 | ..... | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | 26 |
| Potassium cyanide | 6.1 | UN1680 | I | 6.1 | ..... | B69, B77, IB7, IP1, N74, N75, T14, TP2, TP13 | None | ..... | 211 | ..... | 242 | ..... | 5 kg | 50 kg | B | 52 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|---|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | <i>Potassium dichloro isocyanurate or Potassium dichloro-s-triazinetrione, see Dichloroisocyanuric acid, dry or Dichloroisocyanuric acid salts etc.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Potassium dithionite or Potas-sium hydrosulfite. | 4.2 | UN1929 | II | 4.2 | A8, A19, A20, IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | E | 13 |
| | Potassium fluoride | 6.1 | UN1812 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | Potassium fluoroacetate | 6.1 | UN2628 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | E | ..... |
| | Potassium fluorosilicate | 6.1 | UN2655 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | <i>Potassium hydrate, see Potas-sium hydroxide, solid.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Potassium hydrogen fluoride, see Potassium hydrogen difluoride.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Potassium hydrogen fluoride so-lution, see Corrosive liquid, n.o.s..</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Potassium hydrogen sulfate | 8 | UN2509 | II | 8 | A7, IB8, IP2, IP4, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Potassium hydrogendifluoride, <i>solid.</i> | 8 | UN1811 | II | 8, 6.1 | IB8, IP2, IP4, N3, N34, T7, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | A | 25, 26, 40 |
| | Potassium hydrogendifluoride, <i>solution.</i> | 8 | UN1811 | II | 8, 6.1 | IB8, IP2, IP4, N3, N34, T7, TP2 | 154 | 202 | 243 | 1 L | 30 L | A | 25, 26, 40 |
| | <i>Potassium hydrosulfite, see Po-tassium dithionite.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | <i>Potassium hydroxide, liquid, see Potassium hydroxide solution.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Potassium hydroxide, solid | 8 | UN1813 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Potassium hydroxide, solution ... | 8 | UN1814 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
|  | ..... |  |  | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Potassium hypochlorite, solution, see Hypochlorite solutions, etc.</i> |  |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Potassium, metal alloys | 4.3 | UN1420 | I | 4.3 | A19, A20, B27, IB4, IP1 | None | 211 | 244 | Forbidden | 15 kg | D | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|------|--------|-----|----------|--|------|-----|------|-----------|-----------|----|----------------------|
| Potassium metal, liquid alloy, see Alkali metal alloys, liquid, n.o.s.. | | | | | | | | | | | | |
| Potassium metavanadate | 6.1 | UN2864 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| Potassium monoxide | 8 | UN2033 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | |
| Potassium nitrate | 5.1 | UN1486 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| Potassium nitrate and sodium nitrite mixtures. | 5.1 | UN1487 | II | 5.1 | B78, IB8, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | A | 56, 58 |
| Potassium nitrite | 5.1 | UN1488 | II | 5.1 | IB8, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58 |
| Potassium perchlorate, solid | 5.1 | UN1489 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Potassium perchlorate, solution | 5.1 | UN1489 | II | 5.1 | IB2, T4, TP1 | 152 | 202 | 242 | 1 L | 5 L | A | 56, 58, 106 |
| Potassium permanganate | 5.1 | UN1490 | II | 5.1 | IB8, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |
| Potassium peroxide | 5.1 | UN1491 | I | 5.1 | A20, IB6, IP1, N34 | None | 211 | None | Forbidden | 15 kg | B | 13, 75, 106 |
| Potassium persulfate | 5.1 | UN1492 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| Potassium phosphide | 4.3 | UN2012 | I | 4.3, 6.1 | A19, N40 | None | 211 | None | Forbidden | 15 kg | E | 40, 85 |
| Potassium selenate, see Selenates or Selenites. | | | | | | | | | | | | |
| Potassium selenite, see Selenates or Selenites. | | | | | | | | | | | | |
| Potassium sodium alloys | 4.3 | UN1422 | I | 4.3 | A19, B27, IB4, IP1, N34, N40, T9, TP3, TP7, TP31 | 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 | 4.2 | A19, A20, B16, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | A | |
| Potassium sulfide, hydrated with not less than 30 percent water of crystallization. | 8 | UN1847 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | 26 |
| Potassium superoxide | 5.1 | UN2466 | I | 5.1 | A20, IB6, IP1 | 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 | 1.1C | | None | 62 | None | Forbidden | Forbidden | 10 | |
| Powder cake, wetted or Powder paste, wetted with not less than 25 percent water, by mass. | 1.3C | UN0159 | II | 1.3C | | None | 62 | None | Forbidden | Forbidden | 10 | |
| Powder paste, see Powder cake, etc. | | | | | | | | | | | | |
| Powder, smokeless | 1.1C | UN0160 | II | 1.1C | | None | 62 | None | Forbidden | Forbidden | | 26E |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols | Hazardous materials descrip- tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|--------------|---|----------------------------------|----------------------------------|-----|----------------|-------------------------------------|-----------------------------|--------------|--------------|-----------------------------|--------------------------|-----------------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Powder, smokeless | 1.3C | UN0161 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | | 26E |
| | <i>Power device, explosive, see</i> <i>Cartridges, power device.</i> | | | | | | | | | | | | |
| | Primers, cap type | 1.4S | UN0044 | II | None | | None | 62 | None | 25 kg | 100 kg | 05 | |
| | Primers, cap type | 1.1B | UN0377 | II | 1.1B ... | | None | 62 | None | Forbidden | Forbidden | 11 | |
| | Primers, cap type | 1.4B | UN0378 | II | 1.4B ... | | None | 62 | None | Forbidden | 75 kg | 06 | |
| | <i>Primers, small arms, see Prim-</i> <i>ers, cap type.</i> | | | | | | | | | | | | |
| | Primers, tubular | 1.3G | UN0319 | II | 1.3G .. | | None | 62 | None | Forbidden | Forbidden | 07 | |
| | Primers, tubular | 1.4G | UN0320 | II | 1.4G .. | | None | 62 | None | Forbidden | 75 kg | 06 | |
| | Primers, tubular | 1.4S | UN0376 | II | None | | None | 62 | None | 25 kg | 100 kg | 05 | |
| | Printing ink, <i>flammable</i> or Print- ing ink related material (<i>in-</i> <i>cluding printing ink thinning or</i> <i>reducing compound</i>), <i>flam-</i> <i>mable.</i> | 3 | UN1210 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 173 | 242 | 5 L | 60 L | B | |
| | <i>Projectiles, illuminating, see Am-</i> <i>munition, illuminating, etc.</i> | | | | | | | | | | | | |
| | <i>Projectiles, inert with tracer</i> | 1.4S | UN0345 | II | 1.4S ... | | | 62 | None | 25 kg | 100 kg | 01 | |
| | <i>Projectiles, inert, with tracer</i> | 1.3G | UN0424 | II | 1.3G ... | | | 62 | None | Forbidden | Forbidden | 03 | |
| | <i>Projectiles, inert, with tracer</i> | 1.4G | UN0425 | II | 1.4G ... | | | 62 | None | Forbidden | 75 kg | 02 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.2D | UN0346 | II | 1.2D .. | | | 62 | None | Forbidden | Forbidden | 03 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.4D | UN0347 | II | 1.4D .. | | | 62 | None | Forbidden | 75 kg | 02 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.2F | UN0426 | II | 1.2F ... | | | 62 | None | Forbidden | Forbidden | 08 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.4F | UN0427 | II | 1.4F ... | | | 62 | None | Forbidden | Forbidden | 08 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.2G | UN0434 | II | 1.2G .. | | | 62 | None | Forbidden | Forbidden | 03 | |
| | <i>Projectiles, with burster or expel-</i> <i>ling charge.</i> | 1.4G | UN0435 | II | 1.4G .. | | | 62 | None | Forbidden | 75 kg | 02 | |
| | <i>Projectiles, with bursting charge</i> | 1.1F | UN0167 | II | 1.1F ... | | | 62 | None | Forbidden | Forbidden | 08 | |
| | <i>Projectiles, with bursting charge</i> | 1.1D | UN0168 | II | 1.1D ... | | | 62 | None | Forbidden | Forbidden | 03 | |
| | <i>Projectiles, with bursting charge</i> | 1.2D | UN0169 | II | 1.2D ... | | | 62 | None | Forbidden | Forbidden | 03 | |
| | <i>Projectiles, with bursting charge</i> | 1.2F | UN0324 | II | 1.2F ... | | | 62 | None | Forbidden | Forbidden | 08 | |
| | <i>Projectiles, with bursting charge</i> | 1.4D | UN0344 | II | 1.4D ... | | | 62 | None | Forbidden | 75 kg | 02 | |
| | Propadiene, stabilized | 2.1 | UN2200 | | 2.1 | | None | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | | | | |
|--|------|--------|-------|-------|------------|---------|--|-------|-------|-------|-----------|-----------|-----------|-----------|----|-------------|
| <i>Propadiene mixed with methyl acetylene, see Methyl acetylene and propadiene mixtures, stabilized.</i> | | | | | | | | | | | | | | | | |
| Propane <i>see also</i> Petroleum gases, liquefied. | 2.1 | UN1978 | ..... | 2.1 | ..... | 19, T50 | 306 | ..... | 304 | ..... | 314, 315. | Forbidden | 150 kg | E | 40 | |
| Propanethiols | 3 | UN2402 | ..... | II | 3 | ..... | IB2, T4, TP1, TP13 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | E | 95, 102 |
| n-Propanol or Propyl alcohol, normal. | 3 | UN1274 | ..... | II | 3 | ..... | B1, IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | B | ..... |
| ..... |  |  |  | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | 60 L | 220 L | A | ..... |
| Propellant, liquid | 1.3C | UN0495 | ..... | II | 1.3C | ..... | 37 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 10 | ..... |
| Propellant, liquid | 1.1C | UN0497 | ..... | II | 1.1C | ..... | 37 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 10 | ..... |
| Propellant, solid | 1.1C | UN0498 | ..... | II | 1.1C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | | 26E |
| Propellant, solid | 1.3C | UN0499 | ..... | II | 1.3C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | | 26E |
| Propellant, solid | 1.4C | UN0501 | ..... | ..... | 1.4C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | A | 24E |
| Propionaldehyde | 3 | UN1275 | ..... | II | 3 | ..... | IB2, T7, TP1 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | E | ..... |
| Propionic acid | 8 | UN1848 | ..... | III | 8 | ..... | IB3, T4, TP1 | 154 | ..... | 203 | ..... | 241 | 5 L | 60 L | A | ..... |
| Propionic anhydride | 8 | UN2496 | ..... | III | 8 | ..... | IB3, T4, TP1 | 154 | ..... | 203 | ..... | 241 | 5 L | 60 L | A | ..... |
| Propionitrile | 3 | UN2404 | ..... | II | 3, 6.1 | ..... | IB2, T7, TP1, TP13 | None | ..... | 202 | ..... | 243 | Forbidden | 60 L | E | 40 |
| Propionyl chloride | 3 | UN1815 | ..... | II | 3, 8 | ..... | IB1, T7, TP1 | None | ..... | 202 | ..... | 243 | 1 L | 5 L | B | 40 |
| n-Propyl acetate | 3 | UN1276 | ..... | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | B | ..... |
| Propyl alcohol, <i>see</i> Propanol | | | | | | | | | | | | | | | | |
| n-Propyl benzene | 3 | UN2364 | ..... | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | 60 L | 220 L | A | ..... |
| <i>Propyl chloride see</i> 1-Chloropropane. | | | | | | | | | | | | | | | | |
| n-Propyl chloroformate | 6.1 | UN2740 | ..... | I | 6.1, 3, 8. | ..... | 2, A3, A6, A7, B9, B14, B32, B74, B77, N34, T20, TP2, TP13, TP38, TP44 | None | ..... | 227 | ..... | 244 | Forbidden | Forbidden | B | 21, 40, 100 |
| Propyl formates | 3 | UN1281 | ..... | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | 5 L | 60 L | B | ..... |
| n-Propyl isocyanate | 6.1 | UN2482 | ..... | I | 6.1, 3 | ..... | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | ..... | 226 | ..... | 244 | Forbidden | Forbidden | D | 40 |
| <i>Propyl mercaptan, see</i> Propanethiols. | | | | | | | | | | | | | | | | |
| n-Propyl nitrate | 3 | UN1865 | ..... | II | 3 | ..... | IB2, IP7 | 150 | ..... | 202 | ..... | None | 5 L | 60 L | D | ..... |
| Propylamine | 3 | UN1277 | ..... | II | 3, 8 | ..... | IB2, N34, T7, TP1 | None | ..... | 202 | ..... | 243 | 1 L | 5 L | E | 40 |
| Propylene <i>see also</i> Petroleum gases, liquefied. | 2.1 | UN1077 | ..... | ..... | 2.1 | ..... | 19, T50 | 306 | ..... | 304 | ..... | 314, 315. | Forbidden | 150 kg | E | 40 |
| Propylene chlorohydrin | 6.1 | UN2611 | ..... | II | 6.1, 3 | ..... | IB2, T7, TP2, TP13 | None | ..... | 202 | ..... | 243 | 5 L | 60 L | A | 12, 40, 48 |
| Propylene oxide | 3 | UN1280 | ..... | I | 3 | ..... | A3, N34, T11, TP2, TP7 | None | ..... | 201 | ..... | 243 | 1 L | 30 L | E | 40 |
| Propylene tetramer | 3 | UN2850 | ..... | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | 60 L | 220 L | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|--|---------------------------------------|---------------------------------------|---------------|------------------------|--|--------------------------|-----------------------|------------------|-------------------------------------|-----------------------------------|-------------------------|--------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | 1,2-Propylenediamine | 8 | UN2258 | II | 8, 3 | A3, A6, IB2, N34, T7, TP2 | None | 202 | 243 | 1 L | 30 L | A | 40 |
| | Propyleneimine, stabilized | 3 | UN1921 | I | 3, 6.1 | A3, N34, T14, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | Propyltrichlorosilane | 8 | UN1816 | II | 8, 3 | A7, B2, B6, IB2, N34, T7, TP2, TP13 | None | 202 | 243 | Forbidden | 30 L | C | 40 |
| | <i>Prussic acid, see Hydrogen cy- anide.</i> | | | | | | | | | | | | |
| | Pyrethroid pesticide, liquid, flam- mable, toxic, <i>flash point less than 23 degrees C.</i> | 3 | UN3350 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
| | | | | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Pyrethroid pesticide, liquid toxic | 6.1 | UN3352 | I | 6.1 | T14, TP2, TP13, TP27 | None | 211 | 242 | 1 L | 30 L | A | 40 |
| | | | | II | 6.1 | IB2, T11, TP2, TP27 | 153 | 212 | 242 | 5 L | 60 L | A | 40 |
| | | | | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 213 | 240 | 60 L | 220 L | A | 40 |
| | Pyrethroid pesticide, liquid, toxic, flammable, <i>flash point not less than 23 degrees C.</i> | 6.1 | UN3351 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | | III | 6.1, 3 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | B | 40 |
| | Pyrethroid pesticide, solid, toxic | 6.1 | UN3349 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | | II | 6.1 | IB8, IP2, IP4 | 153 | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | | | | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Pyridine | 3 | UN1282 | II | 3 | IB2, T4, TP2 | None | 202 | 242 | 5 L | 60 L | B | 21, 100 |
| | <i>Pyridine perchlorate</i> | Forbidden | | | | | | | | | | | |
| G | Pyrophoric liquid, inorganic, n.o.s.. | 4.2 | UN3194 | I | 4.2 | | None | 181 | 244 | Forbidden | Forbidden | D | 18 |
| G | Pyrophoric liquids, organic, n.o.s.. | 4.2 | UN2845 | I | 4.2 | B11, T22, TP2, TP7 | None | 181 | 244 | Forbidden | Forbidden | D | 18 |
| G | Pyrophoric metals, n.o.s., or Pyrophoric alloys, n.o.s.. | 4.2 | UN1383 | I | 4.2 | B11 | None | 187 | 242 | Forbidden | Forbidden | D | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|---|-----------|--------|-------|-----------|------------------------|-----------|-----------|-----------|-----------|-----------|---|-------|
| G | Pyrophoric organometallic compound, water-reactive, n.o.s.. | 4.2 | UN3203 | I | 4.2, 4.3. | T21, TP2, TP7 | None | 187 | 242 | Forbidden | Forbidden | D | 18 |
| G | Pyrophoric solid, inorganic, n.o.s.. | 4.2 | UN3200 | I | 4.2 | | None | 187 | 242 | Forbidden | Forbidden | D | ..... |
| G | Pyrophoric solids, organic, n.o.s. | 4.2 | UN2846 | I | 4.2 | | None | 187 | 242 | Forbidden | Forbidden | D | ..... |
| | Pyrosulfuryl chloride | 8 | UN1817 | II | 8 | B2, IB2, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | 40 |
| | <i>Pyroxylin solution or solvent, see Nitrocellulose.</i> | | | | | | | | | | | | |
| | Pyrrolidine | 3 | UN1922 | II | 3, 8 | IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40 |
| | <i>Quebrachitol pentanitrate</i> | Forbidden | | | | | | | | | | | |
| | <i>Quicklime, see Calcium oxide</i> | | | | | | | | | | | | |
| | Quinoline | 6.1 | UN2656 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | 12 |
| | <i>R 12, see Dichlorodifluoromethane.</i> | | | | | | | | | | | | |
| | <i>R 12B1, see Chlorodifluorobromomethane.</i> | | | | | | | | | | | | |
| | <i>R 13, see Chlorotrifluoromethane.</i> | | | | | | | | | | | | |
| | <i>R 13B1, see Bromotrifluoromethane.</i> | | | | | | | | | | | | |
| | <i>R 14, see Tetrafluoromethane</i> | | | | | | | | | | | | |
| | <i>R 21, see Dichlorofluoromethane.</i> | | | | | | | | | | | | |
| | <i>R 22, see Chlorodifluoromethane.</i> | | | | | | | | | | | | |
| | <i>R 114, see Dichlorotetrafluoroethane.</i> | | | | | | | | | | | | |
| | <i>R 115, see Chloropentafluoroethane.</i> | | | | | | | | | | | | |
| | <i>R 116, see Hexafluoroethane</i> | | | | | | | | | | | | |
| | <i>R 124, see Chlorotetrafluoroethane.</i> | | | | | | | | | | | | |
| | <i>R 133a, see Chlorotrifluoroethane.</i> | | | | | | | | | | | | |
| | <i>R 152a, see Difluoroethane</i> | | | | | | | | | | | | |
| | <i>R 500, see Dichlorodifluoromethane and difluoroethane, etc.</i> | | | | | | | | | | | | |
| | <i>R 502, see Chlorodifluoromethane and chloropentafluoroethane mixture, etc.</i> | | | | | | | | | | | | |
| | <i>R 503, see Chlorotrifluoromethane and trifluoromethane, etc.</i> | | | | | | | | | | | | |
| D | Radioactive material, excepted package-articles manufactured from natural or depleted uranium or natural thorium. | 7 | UN2910 | ..... | None | | 422, 426. | 422, 426. | 422, 426. | | | A | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|-------------------------------|--------------------------|-----------|-----------|--------------------------|-----------------------|-----------------------|---------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| I | Radioactive material, excepted package-articles manufactured from natural uranium or depleted uranium or natural thorium. | 7 | UN2909 | ..... | None | | 422, 426. | 422, 426. | 422, 426. | ..... | ..... | A | ..... |
| D | Radioactive material, excepted package-empty package or empty packaging. | 7 | UN2910 | ..... | Empty | | 428 | 428 | 428 ..... | ..... | ..... | A | ..... |
| I | Radioactive material, excepted package-empty packaging. | 7 | UN2908 | ..... | Empty | | 422, 428. | 422, 428. | 422, 428. | ..... | ..... | A | ..... |
| D | Radioactive material, excepted package-instruments or articles. | 7 | UN2910 | ..... | None | | 422, 424. | 422, 424. | 422, 424. | ..... | ..... | A | ..... |
| I | Radioactive material, excepted package-instruments or articles. | 7 | UN2911 | ..... | None | | 422, 424. | 422, 424. | 422, 424. | ..... | ..... | A | ..... |
| | Radioactive material, excepted package-limited quantity of material. | 7 | UN2910 | ..... | None | | 421, 422. | 421, 422. | 421, 422. | ..... | ..... | A | ..... |
| D | Radioactive material, fissile, n.o.s. | 7 | UN2918 | ..... | 7 | A56 | 453 | 417 | 417 ..... | ..... | ..... | A | 95, 105 |
| I | Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted. | 7 | UN2912 | ..... | 7 | A56, T5, TP4, W7 | 421, 422, 428. | 427 | 427 ..... | ..... | ..... | A | 95, 129 |
| I | Radioactive material, low specific activity (LSA-II) non fissile or fissile-excepted. | 7 | UN3321 | ..... | 7 | A56, T5, TP4, W7 | 421, 422, 428. | 427 | 427 ..... | ..... | ..... | A | 95, 129 |
| I | Radioactive material, low specific activity (LSA-III) non fissile or fissile excepted. | 7 | UN3322 | ..... | 7 | A56, T5, TP4, W7 | 421, 422, 428. | 427 | 427 ..... | ..... | ..... | A | 95, 129 |
| D | Radioactive material, low specific activity, n.o.s. or Radioactive material, LSA, n.o.s. | 7 | UN2912 | ..... | 7 | A56, T5, TP4 | 421, 428. | 427 | 427 ..... | ..... | ..... | A | 95, 129 |
| D | Radioactive material, n.o.s | 7 | UN2982 | ..... | 7 | A56 | 421, 428. | 415, 416. | 415, 416. | ..... | ..... | A | 95 |
| D | Radioactive material, special form, n.o.s. | 7 | UN2974 | ..... | 7 | A56 | 421, 424. | 415, 416. | 415, 416. | ..... | ..... | A | 95 |

| | | | | | | | | | | | | | | | | | |
|------|--|-----|--------|-------|------|-------|-------------|----------------|-----------|-----------|-----------|-----------|-------|-----------|-----------|--------------|-------|
| D | Radioactive material, surface contaminated object or Radioactive material, SCO. | 7 | UN2913 | ..... | 7 | ..... | A56 | 421, 424, 426. | 427 | ..... | 427 | ..... | ..... | ..... | A | 95 | |
| I | Radioactive material, surface contaminated objects (SCO-I or SCO-II) <i>non fissile or fissile-excepted.</i> | 7 | UN2913 | ..... | 7 | ..... | A56 | 421, 422, 428. | 427 | ..... | 427 | ..... | ..... | ..... | A | 95 | |
| I | Radioactive material, transported under special arrangement, <i>non fissile or fissile-excepted.</i> | 7 | UN2919 | ..... | 7 | ..... | A56, 139 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, transported under special arrangement, fissile. | 7 | UN3331 | ..... | 7 | ..... | A56, 139 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, Type A package, fissile <i>non-special form.</i> | 7 | UN3327 | ..... | 7 | ..... | A56, W7, W8 | 453 | ..... | 417 | ..... | 417 | ..... | ..... | A | 95, 105, 131 | |
| I | Radioactive material, Type A package <i>non-special form, non fissile or fissile-excepted.</i> | 7 | UN2915 | ..... | 7 | ..... | A56, W7, W8 | ..... | 415 | ..... | 415 | ..... | ..... | ..... | A | 95, 130 | |
| I | Radioactive material, Type A package, special form <i>non fissile or fissile-excepted.</i> | 7 | UN3332 | ..... | 7 | ..... | A56, W7, W8 | ..... | 415, 476. | ..... | 415, 476. | ..... | ..... | ..... | A | 95 | |
| I | Radioactive material, Type A package, special form, fissile. | 7 | UN3333 | ..... | 7 | ..... | A56, W7, W8 | 453 | ..... | 417, 476. | ..... | 417, 476. | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, Type B(M) package, fissile. | 7 | UN3329 | ..... | 7 | ..... | A56 | 453 | ..... | 417 | ..... | 417 | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, Type B(M) package <i>non fissile or fissile-excepted.</i> | 7 | UN2917 | ..... | 7 | ..... | A56 | ..... | 416 | ..... | 416 | ..... | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, Type B(U) package, fissile.. | 7 | UN3328 | ..... | 7 | ..... | A56 | 453 | ..... | 417 | ..... | 417 | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, Type B(U) package <i>non fissile or fissile-excepted.</i> | 7 | UN2916 | ..... | A56 | .... | 416 | 416 | ..... | ..... | ..... | ..... | ..... | ..... | A | 95, 105 | |
| I | Radioactive material, uranium hexafluoride <i>non fissile or fissile-excepted.</i> | 7 | UN2978 | ..... | 7, 8 | .... | ..... | 423 | ..... | 420, 427. | ..... | 420, 427. | ..... | ..... | A | 95, 132 | |
| I | Radioactive material, uranium hexafluoride, fissile. | 7 | UN2977 | ..... | 7, 8 | .... | ..... | 453 | ..... | 417, 420. | ..... | 417, 420. | ..... | ..... | A | 95, 132 | |
| A, W | Rags, oily <i>Railway torpedo, see Signals, railway track, explosive.</i> | 4.2 | UN1856 | | III | 4.2 | | 151 | | 213 | | 240 | | Forbidden | Forbidden | A | |
| | Rare gases and nitrogen mixtures, compressed. | 2.2 | UN1981 | | 2.2 | | | 306 | | 302 | | None | | 75 kg | 150 kg | A | |
| | Rare gases and oxygen mixtures, compressed. | 2.2 | UN1980 | | 2.2 | | 79 | 306 | | 302 | | None | | 75 kg | 150 kg | A | |
| | Rare gases mixtures, compressed. | 2.2 | UN1979 | | 2.2 | | | 306 | | 302 | | None | | 75 kg | 150 kg | A | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-------|--------|-------|-----------|-----|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | RC 318, see Octafluorocyclobutane. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | RDX and cyclotetramethylenetetranitra- mine, 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 | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | 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 (gas cartridges) <i>flam- mable, without release device, not refillable and not exceed- ing 1 L capacity.</i> | 2.1 | UN2037 | ..... | 2.1 | | 306 | 304 | None | 1 kg | 15 kg | B | 40 |
| | Receptacles, small, containing gas (gas cartridges) <i>non-flam- mable, without release device, not refillable and not exceed- ing 1 L capacity.</i> | 2.2 | UN2037 | ..... | 2.2 | | 306 | 304 | None | 1 kg | 15 kg | B | 40 |
| | Red phosphorus, see Phos- phorus, amorphous. | ..... |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Refrigerant gas R 404A | 2.2 | UN3337 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Refrigerant gas R 407A | 2.2 | UN3338 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Refrigerant gas R 407B | 2.2 | UN3339 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |
| | Refrigerant gas R 407C | 2.2 | UN3340 | ..... | 2.2 | T50 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | ..... |

| | | | | | | | | | | | | | | | | |
|---|--|------|--------|-------|------|-------|--|--------------|-------|-----|-------|--------------|-----------|-----------|----|--------------------|
| G | Refrigerant gases, n.o.s. | 2.2 | UN1078 | ..... | 2.2 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | 75 kg | 150 kg | A | ..... |
| D | Refrigerant gases, n.o.s. or Dispersant gases, n.o.s.. | 2.1 | NA1954 | ..... | 2.1 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | Forbidden | 150 kg | D | 40 |
| | Refrigerating machines, containing flammable, non-toxic, liquefied gas. | 2.1 | UN3358 | ..... | 2.1 | ..... |  | 306 | ..... | 306 | ..... | 306 | Forbidden | Forbidden | C | 40 |
| | Refrigerating machines, containing non-flammable, non-toxic, liquefied or compressed gas or ammonia solution (UN2672). | 2.2 | UN2857 | ..... | 2.2 | ..... | A53 | 306, 307. | ..... | 306 | ..... | 306, 307. | 450 kg | 450 kg | A | ..... |
| | Regulated medical waste | 6.2 | UN3291 | II | 6.2 | ..... | A13 | 134, 197. | ..... | 197 | ..... | 197 | No Limit | No Limit | A | 40 |
| | Release devices, explosive | 1.4S | UN0173 | II | 1.4S | ..... |  | None | ..... | 62 | ..... | None | 25 kg | 100 kg | 05 | ..... |
| | Resin solution, flammable | 3 | UN1866 | II | 3 | ..... | 149, B52, IB2, T4, TP1, TP8 IB8, IP3 | 150 | ..... | 173 | ..... | 242 | 5 L | 60 L | B | ..... |
| | Resorcinol | 6.1 | UN2876 | III | 6.1 | ..... |  | 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 | 1.4S | ..... |  | None | ..... | 62 | ..... | None | 25 kg | 100 kg | 05 | ..... |
| | Road asphalt or tar liquid, see Tars, liquid, etc. | | | | | | | | | | | | | | | |
| | Rocket motors | 1.3C | UN0186 | II | 1.3C | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | 220 kg | 03 | ..... |
| | Rocket motors | 1.1C | UN0280 | II | 1.1C | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rocket motors | 1.2C | UN0281 | II | 1.2C | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rocket motors, liquid fueled | 1.2J | UN0395 | II | 1.2J | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 04 | 23E |
| | Rocket motors, liquid fueled | 1.3J | UN0396 | II | 1.3J | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 04 | 23E |
| | Rocket motors with hypergolic liquids with or without an expelling charge. | 1.3L | UN0250 | II | 1.3L | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E |
| | Rocket motors with hypergolic liquids with or without an expelling charge. | 1.2L | UN0322 | II | 1.2L | ..... | 109 | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 08 | 8E, 14E, 15E |
| | Rockets, line-throwing | 1.2G | UN0238 | II | 1.2G | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 07 | ..... |
| | Rockets, line-throwing | 1.3G | UN0240 | II | 1.3G | ..... |  | None | ..... | 62 | ..... | None | Forbidden | 75 kg | 07 | ..... |
| | Rockets, line-throwing | 1.4G | UN0453 | II | 1.4G | ..... |  | None | ..... | 62 | ..... | None | Forbidden | 75 kg | 06 | ..... |
| | Rockets, liquid fueled with bursting charge. | 1.1J | UN0397 | II | 1.1J | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 04 | 23E |
| | Rockets, liquid fueled with bursting charge. | 1.2J | UN0398 | II | 1.2J | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 04 | 23E |
| | Rockets, with bursting charge | 1.1F | UN0180 | II | 1.1F | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 08 | ..... |
| | Rockets, with bursting charge | 1.1E | UN0181 | II | 1.1E | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rockets, with bursting charge | 1.2E | UN0182 | II | 1.2E | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rockets, with bursting charge | 1.2F | UN0295 | II | 1.2F | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 08 | ..... |
| | Rockets, with expelling charge .. | 1.2C | UN0436 | II | 1.2C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rockets, with expelling charge .. | 1.3C | UN0437 | II | 1.3C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | Forbidden | 03 | ..... |
| | Rockets, with expelling charge .. | 1.4C | UN0438 | II | 1.4C | ..... |  | None | ..... | 62 | ..... | None | Forbidden | 75 kg | 02 | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|--------------------------------------|---|-----------|-----------------------|--|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|-----------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Rockets, with inert head | 1.3C | UN0183 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Rockets, with inert head | 1.2C | UN0502 | ..... | 1.2C .. | | None | 62 | None | Forbidden | Forbidden | B | 1E, 5E |
| | Rosin oil | 3 | UN1286 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... |  |  | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Rubber scrap or Rubber shoddy, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%. Rubber solution | 4.1 | UN1345 | II | 4.1 | IB8, IP2, IP4 | 151 | 212 | 240 | 15 kg | 50 kg | A | ..... |
|  | ..... | 3 | UN1287 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Rubidium | 4.3 | UN1423 | I | 4.3 | 22, A7, A19, IB1, IP1, N34, N40, N45 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| | Rubidium hydroxide | 8 | UN2678 | II | 8 | IB8, IP2, IP4, T7, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Rubidium hydroxide solution | 8 | UN2677 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
|  | ..... |  |  | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| G | Safety fuse, see Fuse, safety | | | | | | | | | | | | |
| | Samples, explosive, other than initiating explosives.. | | UN0190 | II | ..... | 113 | None | 62 | None | Forbidden | Forbid- den | 14 | 12E |
| | Sand acid, see Fluorosilicic acid | | | | | | | | | | | | |
| | Seed cake, containing vegetable oil solvent extractions and ex- pelled 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 | IB8, IP3, IP6, 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 | IB8, IP3, IP6, 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 | IB8, IP3, IP6, N7 | None | 213 | 241 | Forbidden | Forbidden | A | 13 |
| | Selenates or Selenites | 6.1 | UN2630 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | E | ..... |
| | Selenic acid | 8 | UN1905 | I | 8 | IB7, IP1, N34 | None | 211 | 242 | Forbidden | 25 kg | A | ..... |
| | Selenium compound, n.o.s. | 6.1 | UN3283 | I | 6.1 | IB7, IP1, T14, TP2, TP27 | None | 211 | 242 | 5 kg | 50 kg | B | ..... |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|--|----------------------------|----------------------------|-----|-------------|-------------------------------|--------------------------|-----------|------|--------------------------|-----------------------|-----------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Self-heating, solid, toxic, or- ganic, n.o.s.. | 4.2 | UN3128 | III | 4.2, 6.1. | IB8, IP3 | None | 213 | 242 | 25 kg | 100 kg | C | |
| | | | | II | 4.2, 6.1. | IB5, IP2 | None | 212 | 242 | 15 kg | 50 kg | C | |
| | | | | III | 4.2, 6.1. | IB8, IP3 | None | 213 | 242 | 25 kg | 100 kg | C | |
| | <i>Self-propelled vehicle, see En- gines or Batteries etc.</i> | | | | | | | | | | | | |
| G | Self-reactive liquid type B | 4.1 | UN3221 | II | 4.1 | 53 | None | 224 | None | Forbidden | Forbidden | D | 61 |
| G | Self-reactive liquid type B, tem- perature controlled. | 4.1 | UN3231 | II | 4.1 | 53 | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive liquid type C | 4.1 | UN3223 | II | 4.1 | | None | 224 | None | 5 L | 10 L | D | 61 |
| G | Self-reactive liquid type C, tem- perature controlled. | 4.1 | UN3233 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive liquid type D | 4.1 | UN3225 | II | 4.1 | | None | 224 | None | 5 L | 10 L | D | 61 |
| G | Self-reactive liquid type D, tem- perature controlled. | 4.1 | UN3235 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive liquid type E | 4.1 | UN3227 | II | 4.1 | | None | 224 | None | 10 L | 25 L | D | 61 |
| G | Self-reactive liquid type E, tem- perature controlled. | 4.1 | UN3237 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive liquid type F | 4.1 | UN3229 | II | 4.1 | T23 | None | 114 | None | 10 L | 25L | D | 61 |
| G | Self-reactive liquid type F, tem- perature controlled. | 4.1 | UN3239 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive solid type B | 4.1 | UN3222 | II | 4.1 | 53 | None | 224 | None | Forbidden | Forbidden | D | 61 |
| G | Self-reactive solid type B, tem- perature controlled. | 4.1 | UN3232 | II | 4.1 | 53 | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive solid type C | 4.1 | UN3224 | II | 4.1 | | None | 224 | None | 5 kg | 10 kg | D | 61 |
| G | Self-reactive solid type C, tem- perature controlled. | 4.1 | UN3234 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive solid type D | 4.1 | UN3226 | II | 4.1 | | None | 224 | None | 5 kg | 10 kg | D | 61 |
| G | Self-reactive solid type D, tem- perature controlled. | 4.1 | UN3236 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive solid type E | 4.1 | UN3228 | II | 4.1 | | None | 224 | None | 10 kg | 25 kg | D | 61 |
| G | Self-reactive solid type E, tem- perature controlled. | 4.1 | UN3238 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| G | Self-reactive solid type F | 4.1 | UN3230 | II | 4.1 | | None | 224 | None | 10 kg | 25 kg | D | 61 |
| G | Self-reactive solid type F, tem- perature controlled. | 4.1 | UN3240 | II | 4.1 | | None | 224 | None | Forbidden | Forbidden | D | 2, 61 |
| | Shale oil | 3 | UN1288 | I | 3 | T11, TP1, TP8, TP27 | None | 201 | 243 | 1 L | 30 L | B | |

| | | | | | | | | | | | | | | |
|---|-----------|--------|-------|--------|-------|---|------|-----|-------|-------|-------|-----------|-----------|-------|
| ..... | ..... | ..... | II | 3 | ..... | IB2, T4, TP1, TP8 | 150 | 202 | 242 | ..... | 5 L | 60 L | B | ..... |
| ..... | ..... | ..... | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | 203 | 242 | ..... | 60 L | 220 L | A | ..... |
| <i>Shaped charges, see Charges, shaped, etc.</i> | | | | | | | | | | | | | | |
| Signal devices, hand | 1.4G | UN0191 | II | 1.4G | .. | | None | 62 | ..... | None | ..... | Forbidden | 75 kg | 06 |
| Signal devices, hand | 1.4S | UN0373 | II | 1.4S | ... | | None | 62 | ..... | None | ..... | 25 kg | 100 kg | 05 |
| Signals, distress, <i>ship</i> | 1.1G | UN0194 | II | 1.1G | ... | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Signals, distress, <i>ship</i> | 1.3G | UN0195 | II | 1.3G | .. | | None | 62 | ..... | None | ..... | Forbidden | 75 kg | 07 |
| <i>Signals, highway, see Signal devices, hand.</i> | | | | | | | | | | | | | | |
| Signals, railway track, explosive | 1.1G | UN0192 | II | 1.1G | .. | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Signals, railway track, explosive | 1.4S | UN0193 | II | 1.4S | ... | | None | 62 | ..... | None | ..... | 25 kg | 100 kg | 05 |
| Signals, railway track, explosive | 1.3G | UN0492 | ..... | 1.3G | ... | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Signals, railway track, explosive | 1.4G | UN0493 | ..... | 1.4G | .. | | None | 62 | ..... | None | ..... | Forbidden | 75 kg | 06 |
| <i>Signals, ship distress, water-activated, see Contrivances, water-activated, etc.</i> | | | | | | | | | | | | | | |
| Signals, smoke | 1.1G | UN0196 | II | 1.1G | .. | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Signals, smoke | 1.4G | UN0197 | II | 1.4G | .. | | None | 62 | ..... | None | ..... | Forbidden | 75 kg | 06 |
| Signals, smoke | 1.2G | UN0313 | II | 1.2G | .. | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Signals, smoke | 1.3G | UN0487 | II | 1.3G | .. | | None | 62 | ..... | None | ..... | Forbidden | Forbidden | 07 |
| Silane | 2.1 | UN2203 | ..... | 2.1 | ..... |  | None | 302 | ..... | None | ..... | Forbidden | Forbidden | E |
| <i>Silicofluoric acid, see Fluorosilicic acid.</i> | | | | | | | | | | | | | | |
| <i>Silicon chloride, see Silicon tetrachloride.</i> | | | | | | | | | | | | | | |
| Silicon powder, amorphous | 4.1 | UN1346 | III | 4.1 | ..... | A1, IB8, IP3 | None | 213 | ..... | 240 | ..... | 25 kg | 100 kg | A |
| Silicon tetrachloride | 8 | UN1818 | II | 8 | ..... | A3, A6, B2, B6, IB2, T7, TP2, TP7 | 154 | 202 | ..... | 242 | ..... | 1 L | 30 L | C |
| Silicon tetrafluoride | 2.3 | UN1859 | ..... | 2.3, 8 | ..... | 2 | None | 302 | ..... | None | ..... | Forbidden | Forbidden | D |
| <i>Silver acetylide (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver arsenite</i> | 6.1 | UN1683 | II | 6.1 | ..... | IB8, IP2, IP4 | None | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A |
| <i>Silver azide (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver chlorite (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver cyanide</i> | 6.1 | UN1684 | II | 6.1 | ..... | IB8, IP2, IP4 | None | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A |
| <i>Silver fulminate (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver nitrate</i> | 5.1 | UN1493 | II | 5.1 | ..... | IB8, IP4 | 152 | 212 | ..... | 242 | ..... | 5 kg | 25 kg | A |
| <i>Silver oxalate (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver picrate (dry)</i> | Forbidden | | | | | | | | | | | | | |
| <i>Silver picrate, wetted with not less than 30 percent water, by mass.</i> | 4.1 | UN1347 | I | 4.1 | ..... | 23 | None | 211 | ..... | None | ..... | Forbidden | Forbidden | D |
| Sludge, acid | 8 | UN1906 | II | 8 | ..... | A3, A7, B2, IB2, N34, T8, TP2, TP12, TP28 | None | 202 | ..... | 242 | ..... | Forbidden | 30 L | C |
| D Smokeless powder for small arms (100 pounds or less). | 4.1 | NA3178 | I | 4.1 | ..... | 16 | None | 171 | ..... | None | ..... | Forbidden | 7.3 kg | A |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym- bols | (2) Hazardous materials descrip- tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|---|---|-----------|-----------------------|---|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|-----------------------------|----------------|
| | | | | | | | (8A) Excep- tions | (8B) Non- bulk | (8C) Bulk | (9A) Passenger aircraft/rail | (9B) Cargo air- craft only | (10A) Loca- tion | (10B) Other |
| | Soda lime <i>with more than 4 per- cent sodium hydroxide.</i> | 8 | UN1907 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Sodium | 4.3 | UN1428 | I | 4.3 | A7, A8, A19, A20, B9, B48, B68, IB4, IP1, N34, T9, TP3, TP7, TP31, TP46 | None | 211 | 244 | Forbidden | 15 kg | D | ..... |
| | Sodium aluminate, solid | 8 | UN2812 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Sodium aluminate, solution | 8 | UN1819 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
| | Sodium aluminum hydride | 4.3 | UN2835 | II | 4.3 | IB3, T4, TP1 A8, A19, A20, IB1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Sodium ammonium vanadate | 6.1 | UN2863 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Sodium arsenilate | 6.1 | UN2473 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| | Sodium arsenate | 6.1 | UN1685 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Sodium arsenite, aqueous solu- tions. | 6.1 | UN1686 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | Sodium arsenite, solid | 6.1 | UN2027 | III | 6.1 | IB3, T4, TP2 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Sodium azide | 6.1 | UN1687 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Sodium bifluoride, <i>see</i> Sodium hydrogen difluoride. | | | | | | | | | | | | |
| | Sodium bisulfite, <i>solution, see</i> Bisulfites, aqueous solutions, n.o.s.. | | | | | | | | | | | | |
| | Sodium borohydride | 4.3 | UN1426 | I | 4.3 | N40 | None | 211 | 242 | Forbidden | 15 kg | E | ..... |
| | Sodium borohydride and sodium hydroxide solution, <i>with not more than 12 percent sodium borohydride and not more than 40 percent sodium hy- droxide by mass.</i> | 8 | UN3320 | II | 8 | B2, IB2, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | 26 |
| | Sodium bromate | 5.1 | UN1494 | II | 5.1 | IB8, IP4 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Sodium cacodylate | 6.1 | UN1688 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 26 |

| | | | | | | | | | | | | |
|---|------|--------|-----|-----------|--|------------|-----------|------------|-----------|-----------|----|-----------------|
| Sodium chlorate | 5.1 | UN1495 | II | 5.1 | A9, IB8, IP4, N34, T4, TP1 | 152 | 212 | 240 | 5 kg | 25 kg | A | 56, 58, 106 |
| Sodium chlorate, aqueous solution. | 5.1 | UN2428 | II | 5.1 | A2, IB2, T4, TP1 | 152 | 202 | 241 | 1 L | 5 L | B | 56, 58, 106 |
| ..... |  |  | III | 5.1 | A2, IB2, T4, TP1 | 152 | 203 | 241 | 2.5 L | 30 L | B | 56, 58, 69, 106 |
| <i>Sodium chlorate mixed with dinitrotoluene, see Explosive blasting, type C.</i> | | | | | | | | | | | | |
| Sodium chlorite | 5.1 | UN1496 | II | 5.1 | A9, IB8, IP2, IP4, N34, T4, TP1 | None | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| Sodium chloroacetate | 6.1 | UN2659 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| Sodium cuprocyanide, solid | 6.1 | UN2316 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 26 |
| Sodium cuprocyanide, solution .. | 6.1 | UN2317 | I | 6.1 | T14, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | B | 26, 40 |
| Sodium cyanide | 6.1 | UN1689 | I | 6.1 | B69, B77, IB7, IP1, N74, N75, T14, TP2, TP13 | None | 211 | 242 | 5 kg | 50 kg | B | 52 |
| <i>Sodium dichloroisocyanurate or Sodium dichloro-s-triazinetrione, see Dichloroisocyanuric acid etc.</i> | | | | | | | | | | | | |
| Sodium dinitro-o-cresolate, dry or wetted with less than 15 percent water, by mass. | 1.3C | UN0234 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| Sodium dinitro-o-cresolate, wetted, with not less than 10% water by mass. | 4.1 | UN3369 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| Sodium dinitro-o-cresolate, wetted with not less than 15 percent water, by mass. | 4.1 | UN1348 | I | 4.1, 6.1. | 23, A8, A19, A20, N41 | None | 211 | None | 1 kg | 15 kg | E | 28, 36 |
| Sodium dithionite or Sodium hydrosulfite. | 4.2 | UN1384 | II | 4.2 | A19, A20, IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | E | 13 |
| Sodium fluoride | 6.1 | UN1690 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| Sodium fluoroacetate | 6.1 | UN2629 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | E | ..... |
| Sodium fluorosilicate | 6.1 | UN2674 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| <i>Sodium hydrate, see Sodium hydroxide, solid.</i> | | | | | | | | | | | | |
| Sodium hydride | 4.3 | UN1427 | I | 4.3 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | ..... |
| Sodium hydrogendifluoride, solid | 8 | UN2439 | II | 8 | IB8, IP2, IP4, N3, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | 12, 25, 26, 40 |
| Sodium hydrogendifluoride solution. | 8 | UN2439 | II | 8 | IB8, IP2, IP4, N3, N34 | 154 | 202 | 242 | 1 L | 30 L | A | 12, 25, 26, 40 |
| Sodium hydrosulfide, with less than 25 percent water of crystallization. | 4.2 | UN2318 | II | 4.2 | A7, A19, A20, IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | A | ..... |
| Sodium hydrosulfide with not less than 25 percent water of crystallization. | 8 | UN2949 | II | 8 | A7, IB8, IP2, IP4, T7, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | A | 26 |
| Sodium hydrosulfite, see Sodium dithionite. | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---------------------|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|----------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| | Sodium hydroxide, solid | 8 | UN1823 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Sodium hydroxide solution | 8 | UN1824 | II | 8 | B2, IB2, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | ..... |
|  | ..... |  |  | III | 8 | IB3, N34, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Sodium hypochlorite, solution, see Hypochlorite solutions etc.</i> | | | | | | | | | | | | |
| | <i>Sodium metal, liquid alloy, see Alkali metal alloys, liquid, n.o.s..</i> | | | | | | | | | | | | |
| | Sodium methylate | 4.2 | UN1431 | II | 4.2, 8 | A19, IB5, IP2 | None | 212 | 242 | 15 kg | 50 kg | B | ..... |
| | Sodium methylate solutions <i>in alcohol.</i> | 3 | UN1289 | II | 3, 8 | IB2, T7, TP1, TP8 | None | 202 | 243 | 1 L | 5 L | B | ..... |
|  | ..... |  |  | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | ..... |
| | Sodium monoxide | 8 | UN1825 | II | 8 | IB8, IP2, IP4 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Sodium nitrate | 5.1 | UN1498 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Sodium nitrate and potassium nitrate mixtures. | 5.1 | UN1499 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Sodium nitrite | 5.1 | UN1500 | III | 5.1, 6.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 56, 58 |
| | Sodium pentachlorophenate | 6.1 | UN2567 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Sodium perchlorate | 5.1 | UN1502 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Sodium permanganate | 5.1 | UN1503 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |
| | Sodium peroxide | 5.1 | UN1504 | I | 5.1 | A20, IB6, IP1, N34 | None | 211 | None | Forbidden | 15 kg | B | 13, 75, 106 |
| | Sodium peroxoborate, anhy-drous. | 5.1 | UN3247 | II | 5.1 | IB8, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | A | 13, 25, 106 |
| | Sodium persulfate | 5.1 | UN1505 | III | 5.1 | A1, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Sodium phosphide | 4.3 | UN1432 | I | 4.3, 6.1 | A19, N40 | None | 211 | None | Forbidden | 15 kg | E | 40, 85 |
| | Sodium picramate, <i>dry or wetted with less than 20 percent water, by mass.</i> | 1.3C | UN0235 | II | 1.3C .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---|---|-----------|--------|-----|----------|----------------------------|------|-----|------|-----------|-----------|----|-------------|
| | Sodium picramate, wetted with not less than 20 percent water, by mass. | 4.1 | UN1349 | I | 4.1 | 23, A8, A19, N41 | None | 211 | None | Forbidden | 15 kg | E | 28, 36 |
| | Sodium picryl peroxide | Forbidden | | | | | | | | | | | |
| | Sodium potassium alloys, see Potassium sodium alloys. | | | | | | | | | | | | |
| | Sodium selenate, see Selenates or Selenites. | | | | | | | | | | | | |
| | Sodium sulfide, anhydrous or Sodium sulfide with less than 30 percent water of crystallization. | 4.2 | UN1385 | II | 4.2 | A19, A20, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | A | |
| | Sodium sulfide, hydrated with not less than 30 percent water. | 8 | UN1849 | II | 8 | IB8, IP2, IP4, T7, TP2 | 154 | 212 | 240 | 15 kg | 50 kg | A | 26 |
| | Sodium superoxide | 5.1 | UN2547 | I | 5.1 | A20, IB6, IP1, N34 | None | 211 | None | Forbidden | 15 kg | E | 13, 75, 106 |
| | Sodium tetranitride | Forbidden | | | | | | | | | | | |
| G | Solids containing corrosive liquid, n.o.s.. | 8 | UN3244 | II | 8 | 49, IB5 | 154 | 212 | 240 | 15 kg | 50 kg | B | 40 |
| G | Solids containing flammable liquid, n.o.s.. | 4.1 | UN3175 | II | 4.1 | 47, IB6, IP2 | 151 | 212 | 240 | 15 kg | 50 kg | B | |
| G | Solids containing toxic liquid, n.o.s.. | 6.1 | UN3243 | II | 6.1 | 48, IB2 | None | 212 | 240 | 25 kg | 100 kg | B | 40 |
| | Sounding devices, explosive | 1.2F | UN0204 | II | 1.2F | | None | 62 | None | Forbidden | Forbidden | 08 | |
| | Sounding devices, explosive | 1.1F | UN0296 | II | 1.1F | | None | 62 | None | Forbidden | Forbidden | 08 | |
| | Sounding devices, explosive | 1.1D | UN0374 | II | 1.1D | | None | 62 | None | Forbidden | Forbidden | 07 | |
| | Sounding devices, explosive | 1.2D | UN0375 | II | 1.2D | | None | 62 | None | Forbidden | Forbidden | 07 | |
| | Spirits of salt, see Hydrochloric acid. | | | | | | | | | | | | |
| | Squibs, see Igniters etc | | | | | | | | | | | | |
| | Stannic chloride, anhydrous | 8 | UN1827 | II | 8 | B2, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | C | |
| | Stannic chloride pentahydrate | 8 | UN2440 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | |
| | Stannic phosphide | 4.3 | UN1433 | I | 4.3, 6.1 | A19, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40, 85 |
| | Steel swarf, see Ferrous metal borings, etc. | | | | | | | | | | | | |
| | Stibine | 2.3 | UN2676 | | 2.3, 2.1 | 1 | None | 304 | None | Forbidden | Forbidden | D | 40 |
| | Storage batteries, wet, see Batteries, wet etc. | | | | | | | | | | | | |
| | Strontium arsenite | 6.1 | UN1691 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | |
| | Strontium chlorate | 5.1 | UN1506 | II | 5.1 | A1, A9, IB8, IP2, IP4, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Strontium nitrate | 5.1 | UN1507 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | |
| | Strontium perchlorate | 5.1 | UN1508 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Strontium peroxide | 5.1 | UN1509 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 13, 75, 106 |
| | Strontium phosphide | 4.3 | UN2013 | I | 4.3, 6.1 | A19, N40 | None | 211 | None | Forbidden | 15 kg | E | 40, 85 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-----------|-------------------|-------------------------------|--------------------------|-----------|------------|--------------------------|-----------------------|-----------------------|----------------------------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Strychnine or Strychnine salts ... Styphnic acid, see Trinitroresorcinol, etc. | 6.1 | UN1692 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| G | Styrene monomer, stabilized Substances, explosive, n.o.s. | 3 1.1L | UN2055 UN0357 | III II | 3 | B1, IB3, T2, TP1 101 | 150 | 203 | 242 | 60 L Forbidden | 220 L Forbidden | A | 8E, 14E, 15E, 17E |
| G | Substances, explosive, n.o.s. | 1.2L | UN0358 | II | 1.2L ... | 101 | None | 62 | None | Forbidden | Forbidden | | 8E, 14E, 15E, 17E |
| G | Substances, explosive, n.o.s. | 1.3L | UN0359 | II | 1.3L ... | 101 | None | 62 | None | Forbidden | Forbidden | | 8E, 14E, 15E, 17E |
| G | Substances, explosive, n.o.s. | 1.1A | UN0473 | II | 1.1A ... | 101, 111 | None | 62 | None | Forbidden | Forbidden | 12 | ..... |
| G | Substances, explosive, n.o.s. | 1.1C | UN0474 | II | 1.1C .. | 101 | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| G | Substances, explosive, n.o.s. | 1.1D | UN0475 | II | 1.1D .. | 101 | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| G | Substances, explosive, n.o.s. | 1.1G | UN0476 | II | 1.1G .. | 101 | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| G | Substances, explosive, n.o.s. | 1.3C | UN0477 | II | 1.3C .. | 101 | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| G | Substances, explosive, n.o.s. | 1.3G | UN0478 | II | 1.3G .. | 101 | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| G | Substances, explosive, n.o.s. | 1.4C | UN0479 | II | 1.4C .. | 101 | None | 62 | None | Forbidden | 75 kg | 09 | ..... |
| G | Substances, explosive, n.o.s. | 1.4D | UN0480 | II | 1.4D .. | 101 | None | 62 | None | Forbidden | 75 kg | 09 | ..... |
| G | Substances, explosive, n.o.s. | 1.4S | UN0481 | II | 1.4S ... | 101 | None | 62 | None | 25 kg | 75 kg | 05 | ..... |
| G | Substances, explosive, n.o.s. | 1.4G | UN0485 | II | 1.4G .. | 101 | None | 62 | None | Forbidden | 75 kg | 08 | ..... |
| G | Substances, explosive, very in- sensitive, n.o.s., or Sub- stances, EVI, n.o.s.. Substituted nitrophenol pes- ticides, liquid, flammable, toxic, flash point less than 23 degrees C. | 1.5D 3 | UN0482 UN2780 | II I | 1.5D .. 3, 6.1 | 101 T14, TP2, TP13, TP27 | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
|  | ..... |  |  | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Substituted nitrophenol pes- ticides, liquid, toxic. | 6.1 | UN3014 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-----|--------|-------|-----------------|---|-----------------------------|----------------------|---------------------|------------------------------------|----------------------------------|------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| + | Sulfuric acid, fuming with 30 percent or more free sulfur trioxide. | 8 | UN1831 | I | 8, 6.1 | 2, A3, A6, A7, B9, B14, B32, B74, B77, B84, N34, T20, TP2, TP12, TP13 | None | 227 | 244 | Forbidden | Forbidden | C | 14, 40 |
| | Sulfuric acid, spent | 8 | UN1832 | II | 8 | A3, A7, B2, B83, B84, IB2, N34, T8, TP2, TP12 | None | 202 | 242 | Forbidden | 30 L | C | 14 |
| | Sulfuric acid with more than 51 percent acid. | 8 | UN1830 | II | 8 | A3, A7, B3, B83, B84, IB2, N34, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | C | 14 |
| | Sulfuric acid with not more than 51% acid. | 8 | UN2796 | II | 8 | A3, A7, B2, B15, IB2, N6, N34, T8, TP2, TP12 | 154 | 202 | 242 | 1 L | 30 L | B | ..... |
| | Sulfuric and hydrofluoric acid mixtures, see Hydrofluoric and sulfuric acid mixtures. | | | | | | | | | | | | |
| | Sulfuric anhydride, see Sulfur trioxide, stabilized. | | | | | | | | | | | | |
| | Sulfurous acid | 8 | UN1833 | II | 8 | B3, IB2, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | B | 40 |
| + | Sulfuryl chloride | 8 | UN1834 | I | 8, 6.1 | 1, A3, B6, B9, B10, B14, B30, B74, B77, N34, T22, TP2, TP12, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | C | 40 |
| | Sulfuryl fluoride | 2.3 | UN2191 | ..... | 2.3 | 4 | None | 304 | 314, 315, 242 | Forbidden | 25 kg | D | 40 |
| | Tars, liquid including road asphalt and oils, bitumen and cut backs. | 3 | UN1999 | II | 3 | 149, B13, IB2, T3, TP3, TP29 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Tear gas candles | 6.1 | UN1700 | II | 6.1, 4.1, | | 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 | 6.1 | | None | 340 | None | Forbidden | Forbidden | D | 40 |
| | | | | II | 6.1 | | None | 340 | None | Forbidden | Forbidden | D | 40 |

256

| | | | | | | | | | | | | | |
|---|-----------|--------|-------|--------|------|-----|-----------|-----------|-----------|---|----|--|--|
| Tear gas devices, with not more than 2 percent tear gas substances, by mass, see Aerosols, etc. | | | | | | | | | | | | | |
| Tear gas grenades, see Tear gas candles. | | | | | | | | | | | | | |
| G Tear gas substances, liquid, n.o.s.. | 6.1 | UN1693 | I | 6.1 | None | 201 | None | Forbidden | Forbidden | D | 40 | | |
| | | | II | 6.1 | IB2 | 202 | None | Forbidden | 5 L | D | 40 | | |
| G Tear gas substances, solid, n.o.s.. | 6.1 | UN1693 | I | 6.1 | None | 211 | None | Forbidden | 15 kg | D | 40 | | |
| | | | II | 6.1 | None | 212 | None | Forbidden | 25 kg | D | 40 | | |
| Tellurium compound, n.o.s. | 6.1 | UN3284 | I | 6.1 | None | 211 | 242 | 5 kg | 50 kg | B | | | |
| | | | II | 6.1 | None | 212 | 242 | 25 kg | 100 kg | B | | | |
| | | | III | 6.1 | 153 | 213 | 240 | 100 kg | 200 kg | A | | | |
| Tellurium hexafluoride | 2.3 | UN2195 | ..... | 2.3, 8 | None | 302 | None | Forbidden | Forbidden | D | 40 | | |
| Terpene hydrocarbons, n.o.s. | 3 | UN2319 | III | 3 | 150 | 203 | 242 | 60 L | 220 L | A | | | |
| Terpinolene | 3 | UN2541 | III | 3 | 150 | 203 | 242 | 60 L | 220 L | A | | | |
| Tetraazido benzene quinone | Forbidden | | | | | | | | | | | | |
| Tetrabromoethane | 6.1 | UN2504 | III | 6.1 | 153 | 203 | 241 | 60 L | 220 L | A | | | |
| 1,1,2,2-Tetrachloroethane | 6.1 | UN1702 | II | 6.1 | None | 202 | 243 | 5 L | 60 L | A | 40 | | |
| Tetrachloroethylene | 6.1 | UN1897 | III | 6.1 | 153 | 203 | 241 | 60 L | 220 L | A | 40 | | |
| Tetraethyl dithiopyrophosphate .. | 6.1 | UN1704 | II | 6.1 | None | 212 | 242 | 25 kg | 100 kg | D | 40 | | |
| Tetraethyl silicate | 3 | UN1292 | III | 3 | 150 | 203 | 242 | 60 L | 220 L | A | | | |
| Tetraethylammonium perchlorate (dry). | Forbidden | | | | | | | | | | | | |
| Tetraethylenepentamine | 8 | UN2320 | III | 8 | 154 | 203 | 241 | 5 L | 60 L | A | | | |
| 1,1,1,2-Tetrafluoroethane or Refrigerant gas R 134a. | 2.2 | UN3159 | ..... | 2.2 | 306 | 304 | 314, 315. | 75 kg | 150 kg | A | | | |
| Tetrafluoroethylene, stabilized ... | 2.1 | UN1081 | ..... | 2.1 | 306 | 304 | None | Forbidden | 150 kg | E | 40 | | |
| Tetrafluoromethane, or Refrigerant gas R 14. | 2.2 | UN1982 | ..... | 2.2 | None | 302 | None | 75 kg | 150 kg | A | | | |
| 1,2,3,6-Tetrahydrobenzaldehyde | 3 | UN2498 | III | 3 | 150 | 203 | 242 | 60 L | 220 L | A | | | |
| Tetrahydrofuran | 3 | UN2056 | II | 3 | None | 202 | 242 | 5 L | 60 L | B | | | |
| Tetrahydrofurfurylamine | 3 | UN2943 | III | 3 | 150 | 203 | 242 | 60 L | 220 L | A | | | |
| Tetrahydrophthalic anhydrides with more than 0.05 percent of maleic anhydride. | 8 | UN2698 | III | 8 | 154 | 213 | 240 | 25 kg | 100 kg | A | | | |
| 1,2,3,6-Tetrahydropyridine | 3 | UN2410 | II | 3 | 150 | 202 | 242 | 5 L | 60 L | B | | | |
| Tetrahydrothiophene | 3 | UN2412 | II | 3 | 150 | 202 | 242 | 5 L | 60 L | B | | | |
| Tetramethylammonium hydroxide. | 8 | UN1835 | II | 8 | 154 | 202 | 242 | 1 L | 30 L | A | | | |
| Tetramethylene diperoxide dicarbamide. | Forbidden | | | | | | | | | | | | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica-tion Num-bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|---|--|--|-------------------------------------|---------------|------------------------|--|--------------------------|----------------------|------------------|-------------------------------------|----------------------------------|------------------------|--------------------|
| | | | | | | | Excep-tions (8A) | Non-bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air-craft only (9B) | Loca-tion (10A) | Other (10B) |
| + | Tetramethylsilane | 3 | UN2749 | I | 3 | T14, TP2 | None | 201 | 243 | Forbidden | 30 L | D | ..... |
| | <i>Tetranitro diglycerin</i> | Forbidden | | | | | | | | | | | |
| | Tetranitroaniline | 1.1D | UN0207 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Tetranitromethane | 5.1 | UN1510 | I | 5.1, 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP44 | None | 227 | None | Forbidden | Forbidden | D | 40, 66, 106 |
| | <i>2,3,4,6-Tetranitrophenol</i> | Forbidden | | | | | | | | | | | |
| | <i>2,3,4,6-Tetranitrophenyl methyl nitramine.</i> | Forbidden | | | | | | | | | | | |
| | <i>2,3,4,6-Tetranitrophenylnitramine</i> | Forbidden | | | | | | | | | | | |
| | <i>Tetranitrosorcinol (dry)</i> | Forbidden | | | | | | | | | | | |
| | <i>2,3,5,6-Tetranitroso-1,4-dinitrobenzene.</i> | Forbidden | | | | | | | | | | | |
| | <i>2,3,5,6-Tetranitroso nitrobenzene (dry).</i> | Forbidden | | | | | | | | | | | |
| | Tetrapropylorthotitanate | 3 | UN2413 | III | 3 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Tetrazene, <i>see</i> Guanyl nitrosaminoguanyltetrazene. | | | | | | | | | | | | |
| | <i>Tetrazine (dry)</i> | Forbidden | | | | | | | | | | | |
| | Tetrazol-1-acetic acid | 1.4C | UN0407 | II | 1.4C .. | | None | 62 | None | Forbidden | 75 kg | 09 | ..... |
| | 1H-Tetrazole | 1.1D | UN0504 | | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | B | 1E, 5E |
| <i>Tetrazolyl azide (dry)</i> | Forbidden | | | | | | | | | | | | |
| Tetryl, <i>see</i> Trinitrophenylmethylnitramine. | | | | | | | | | | | | | |
| Textile waste, wet | 4.2 | UN1857 | III | 4.2 | | 151 | 213 | 240 | Forbidden | Forbidden | A | ..... |  |
| Thallium chlorate | 5.1 | UN2573 | II | 5.1, 6.1 | IB6, IP2 | None | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 | |
| Thallium compounds, n.o.s. | 6.1 | UN1707 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |  |
| Thallium nitrate | 6.1 | UN2727 | II | 6.1, 5.1 | IB6, IP2 | None | 212 | 242 | 5 kg | 25 kg | A | ..... |  |
| 4-Thiapentanal | 6.1 | UN2785 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | D | 25, 49 | |
| Thioacetic acid | 3 | UN2436 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |  |
| Thiocarbamate pesticide, liquid, flammable, toxic, <i>flash point less than 23 degrees C.</i> | 3 | UN2772 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 | |
| ..... |  |  |  | II | 3, 6.1 | IB2, T11, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |

258

A, I, W

| | | | | | | | | | | | | |
|--|-----|--------|-----|--------|--|------|-----|------|-----------|-----------|---|--------|
| Thiocarbamate pesticide, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN3005 | I | 6.1, 3 | T14, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | III | 6.1, 3 | IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| Thiocarbamate pesticide, liquid, toxic. | 6.1 | UN3006 | I | 6.1 | T14, TP2, TP13 | None | 201 | 243 | 1 L | 30 L | B | 40 |
| | | | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
| | | | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| Thiocarbamate pesticides, solid, toxic. | 6.1 | UN2771 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
| | | | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
| | | | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| <i>Thiocarbonylchloride, see Thiophosgene.</i> | | | | | | | | | | | | |
| Thioglycol | 6.1 | UN2966 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| Thioglycolic acid | 8 | UN1940 | II | 8 | A7, B2, IB2, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | A | |
| Thiolactic acid | 6.1 | UN2936 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | |
| Thionyl chloride | 8 | UN1836 | I | 8 | A7, B6, B10, N34, T10, TP2, TP12, TP13 | None | 201 | 243 | Forbidden | Forbidden | C | 40 |
| Thiophene | 3 | UN2414 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | 40 |
| Thiophosgene | 6.1 | UN2474 | II | 6.1 | 2, A7, B9, B14, B32, B74, N33, N34, T20, TP2, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | B | 26, 40 |
| Thiophosphoryl chloride | 8 | UN1837 | II | 8 | A3, A7, B2, B8, B25, IB2, N34, T7, TP2 | None | 202 | 242 | Forbidden | 30 L | C | 40 |
| Thiourea dioxide | 4.2 | UN3341 | II | 4.2 | IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | D | |
| | | | III | 4.2 | IB8, IP3 | None | 213 | 241 | 25 kg | 100 kg | D | |
| Thorium metal, pyrophoric | 7 | UN2975 | | 7, 4.2 | A56 | None | 418 | None | | | | 95 |
| Thorium nitrate, solid | 7 | UN2976 | | 7, 5.1 | | None | 419 | None | Forbidden | 15 kg | A | 95 |
| <i>Tin chloride, fuming, see Stannic chloride, anhydrous.</i> | | | | | | | | | | | | |
| <i>Tin perchloride or Tin tetrachloride, see Stannic chloride, anhydrous.</i> | | | | | | | | | | | | |
| Tinctures, medicinal | 3 | UN1293 | II | 3 | IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | | | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | |
| <i>Tinning flux, see Zinc chloride</i> | | | | | | | | | | | | |
| Titanium disulphide | 4.2 | UN3174 | III | 4.2 | IB8, IP3 | None | 213 | 241 | 25 kg | 100 kg | A | |
| Titanium hydride | 4.1 | UN1871 | II | 4.1 | A19, A20, IB4, N34 | None | 212 | 241 | 15 kg | 50 kg | E | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| Sym-bols (1) | Hazardous materials descrip-tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|-----------------------------------|-----------------------------------|-----------|--------------------|---|--------------------------|-------------------|--------------|---------------------------------|-------------------------------|-----------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Titanium powder, dry | 4.2 | UN2546 | I | 4.2 | | None | 211 | 242 | Forbidden | Forbidden | D | ..... |
|  | ..... |  |  | II | 4.2 | A19, A20, IB6, IP2, N5, N34 | None | 212 | 241 | 15 kg | 50 kg | D | ..... |
|  | ..... |  |  | III | 4.2 | IB8, IP3 | 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 | 4.1 | A19, A20, IB6, IP2, N34 | None | 212 | 240 | 15 kg | 50 kg | E | ..... |
| | Titanium sponge granules or Titanium sponge powders. | 4.1 | UN2878 | III | 4.1 | A1, IB8, IP3 | None | 213 | 240 | 25 kg | 100 kg | D | ..... |
| + | Titanium tetrachloride | 8 | UN1838 | II | 8, 6.1 | 2, A3, A6, B7, B9, B14, B32, B74, B77, T20, TP2, TP13, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | C | 40 |
| | Titanium trichloride mixtures | 8 | UN2869 | II | 8 | A7, IB8, IP2, IP4, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | 40 |
|  | ..... |  |  | III | 8 | A7, IB8, IP3, N34 | 154 | 213 | 240 | 25 kg | 100 kg | A | 40 |
| | Titanium trichloride, pyrophoric or Titanium trichloride mixtures, pyrophoric. | 4.2 | UN2441 | I | 4.2, 8 | A7, A8, A19, A20, N34 | None | 181 | 244 | Forbidden | Forbidden | D | 40 |
| | TNT mixed with aluminum, see Tritonal. | | | | | | | | | | | | |
| | TNT, see Trinitrotoluene, etc | | | | | | | | | | | | |
| | Toluene | 3 | UN1294 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| + | Toluene diisocyanate | 6.1 | UN2078 | II | 6.1 | IB2, T7, TP2, TP13 | None | 202 | 243 | 5 L | 60 L | D | 25, 40 |
| | Toluene sulfonic acid, see Alkyl, or Aryl sulfonic acid etc. | | | | | | | | | | | | |
| + | Toluidines liquid | 6.1 | UN1708 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| + | Toluidines solid | 6.1 | UN1708 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | 2,4-Toluylenediamine or 2,4-Toluenediamine. | 6.1 | UN1709 | III | 6.1 | IB8, IP3, T4, TP1 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |

| | | | | | | | | | | | | | | |
|--|-------|--------|-----|----------|--|------|-------|-------|-------|-----------|-----------|-----------|-------|-------|
| Torpedoes, liquid fueled, with inert head. | 1.3J | UN0450 | II | 1.3J ... | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 04 | 23E | |
| Torpedoes, liquid fueled, with or without bursting charge. | 1.1J | UN0449 | II | 1.1J ... | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 04 | 23E | |
| Torpedoes with bursting charge | 1.1E | UN0329 | II | 1.1E ... | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 03 | ..... |  |
| Torpedoes with bursting charge | 1.1F | UN0330 | II | 1.1F ... | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 08 | ..... |  |
| Torpedoes with bursting charge | 1.1D | UN0451 | II | 1.1D .. | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 03 | ..... |  |
| G Toxic liquid, corrosive, inorganic, n.o.s.. | 6.1 | UN3289 | I | 6.1, 8 | T14, TP2, TP13, TP27 | None | 201 | ..... | 243 | ..... | 0.5 L | 2.5 L | A | ..... |
| ..... | ..... | ..... | II | 6.1, 8 | IB2, T11, TP2, TP27 | None | 202 | ..... | 243 | ..... | 1 L | 30 L | A | ..... |
| G Toxic liquid, corrosive, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone A. | 6.1 | UN3289 | I | 6.1, 8 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27, TP38, TP44 | None | 226 | ..... | 244 | ..... | Forbidden | Forbidden | B | 40 |
| G Toxic liquid, corrosive, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone B. | 6.1 | UN3289 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP27, TP38, TP45 | None | 227 | ..... | 244 | ..... | Forbidden | Forbidden | B | 40 |
| G Toxic liquid, inorganic, n.o.s. | 6.1 | UN3287 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | ..... | 243 | ..... | 1 L | 30 L | A | ..... |
| ..... | ..... | ..... | II | 6.1 | IB2, T11, TP2, TP27 | None | 202 | ..... | 243 | ..... | 5 L | 60 L | A | ..... |
| ..... | ..... | ..... | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | ..... | 241 | ..... | 60 L | 220 L | A | ..... |
| G Toxic liquid, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone A. | 6.1 | UN3287 | I | 6.1 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27, TP38, TP44 | None | 226 | ..... | 244 | ..... | Forbidden | Forbidden | B | 40 |
| G Toxic liquid, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone B. | 6.1 | UN3287 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP27, TP38, TP45 | None | 227 | ..... | 244 | ..... | Forbidden | Forbidden | B | 40 |
| G Toxic liquids, corrosive, organic, n.o.s.. | 6.1 | UN2927 | I | 6.1, 8 | T14, TP2, TP13, TP27 | None | 201 | ..... | 243 | ..... | 0.5 L | 2.5 L | B | 40 |
| ..... | ..... | ..... | II | 6.1, 8 | IB2, T11, TP2, TP27 | None | 202 | ..... | 243 | ..... | 1 L | 30 L | B | 40 |
| G Toxic liquids, corrosive, organic, n.o.s., inhalation hazard, Packing Group I, Zone A. | 6.1 | UN2927 | I | 6.1, 8 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27, TP38, TP44 | None | 226 | ..... | 244 | ..... | Forbidden | Forbidden | D | 40 |
| G Toxic liquids, corrosive, organic, n.o.s., inhalation hazard, Packing Group I, Zone B. | 6.1 | UN2927 | I | 6.1, 8 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP27, TP38, TP45 | None | 227 | ..... | 244 | ..... | Forbidden | Forbidden | D | 40 |
| G Toxic liquids, flammable, organic, n.o.s.. | 6.1 | UN2929 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | ..... | 243 | ..... | 1 L | 30 L | B | 40 |
| ..... | ..... | ..... | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | ..... | 243 | ..... | 5 L | 60 L | B | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|-----|---|-----|--------|-----|-----------|--|-----------------------------|--------------|-----------|-----------------------------|--------------------------|------------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| G | Toxic liquids, flammable, organic, n.o.s., <i>inhalation hazard, Packing Group I, Zone A.</i> | 6.1 | UN2929 | I | 6.1, 3 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| G | Toxic liquids, flammable, organic, n.o.s., <i>inhalation hazard, Packing Group I, Zone B.</i> | 6.1 | UN2929 | I | 6.1, 3 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP27, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| G | Toxic liquids, organic, n.o.s. | 6.1 | UN2810 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP1, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| G | Toxic liquids, organic, n.o.s. <i>Inhalation hazard, Packing Group I, Zone A.</i> | 6.1 | UN2810 | I | 6.1 | 1, B9, B14, B30, B72, T22, TP2, TP13, TP27, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | D | 40 |
| G | Toxic liquids, organic, n.o.s. <i>Inhalation hazard, Packing Group I, Zone B.</i> | 6.1 | UN2810 | I | 6.1 | 2, B9, B14, B32, B74, T20, TP2, TP13, TP27, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| G | Toxic liquids, oxidizing, n.o.s. | 6.1 | UN3122 | I | 6.1, 5.1. | A4 | None | 201 | 243 | Forbidden | 2.5 L | C | ..... |
|  | ..... |  |  | II | 6.1, 5.1. | IB2 | None | 202 | 243 | 1 L | 5 L | C | ..... |
| G | Toxic liquids, oxidizing, n.o.s. <i>Inhalation hazard, Packing Group I, Zone A.</i> | 6.1 | UN3122 | I | 6.1, 5.1. | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | C | ..... |
| G | Toxic liquids, oxidizing, n.o.s. <i>Inhalation Hazard, Packing Group I, Zone B.</i> | 6.1 | UN3122 | I | 6.1, 5.1. | 2, B9, B14, B32, T20, TP2, TP13, TP38, TP44 | None | 227 | 244 | Forbidden | Forbidden | C | ..... |
| G | Toxic liquids, water-reactive, n.o.s.. | 6.1 | UN3123 | I | 6.1, 4.3. | A4 | None | 201 | 243 | Forbidden | 1 L | E | 40 |
|  | ..... |  |  | II | 6.1, 4.3. | IB2 | None | 202 | 243 | 1 L | 5 L | E | 40 |

| | | | | | | | | | | | | | |
|---|--|-----------|--------|-----|-----------|--|------|-----|------|-----------|-----------|----|-------|
| G | Toxic liquids, water-reactive, n.o.s. <i>Inhalation hazard, packing group I, Zone A.</i> | 6.1 | UN3123 | I | 6.1, 4.3. | 1, B9, B14, B30, B72, T22, TP2, TP13, TP38, TP44 | None | 226 | 244 | Forbidden | Forbidden | E | 40 |
| G | Toxic liquids, water-reactive, n.o.s. <i>Inhalation hazard, packing group I, Zone B.</i> | 6.1 | UN3123 | I | 6.1, 4.3. | 2, B9, B14, B32, B74, T20, TP2, TP13, TP38, TP44 | None | 227 | 244 | Forbidden | Forbidden | E | 40 |
| G | Toxic solid, corrosive, inorganic, n.o.s.. | 6.1 | UN3290 | I | 6.1, 8 | IB7 | None | 211 | 242 | 1 kg | 25 kg | A | ..... |
| G | Toxic solid, inorganic, n.o.s. | 6.1 | UN3288 | II | 6.1, 8 | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | A | ..... |
|  | ..... |  |  | I | 6.1 | IB7 | None | 211 | 242 | 5 kg | 50 kg | A | ..... |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| G | Toxic solids, corrosive, organic, n.o.s.. | 6.1 | UN2928 | I | 6.1, 8 | IB7 | None | 211 | 242 | 1 kg | 25 kg | B | 40 |
|  | ..... |  |  | II | 6.1, 8 | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | B | 40 |
| G | Toxic solids, flammable, organic, n.o.s.. | 6.1 | UN2930 | I | 6.1, 4.1. | IB6 | None | 211 | 242 | 1 kg | 15 kg | B | ..... |
|  | ..... |  |  | II | 6.1, 4.1. | IB8, IP2, IP4 | None | 212 | 242 | 15 kg | 50 kg | B | ..... |
| G | Toxic solids, organic, n.o.s. | 6.1 | UN2811 | I | 6.1 | IB7 | None | 211 | 242 | 5 kg | 50 kg | B | ..... |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | B | ..... |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | ..... |
| G | Toxic solids, oxidizing, n.o.s. | 6.1 | UN3086 | I | 6.1, 5.1. | | None | 211 | 242 | 1 kg | 15 kg | C | ..... |
|  | ..... |  |  | II | 6.1, 5.1. | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | C | ..... |
| G | Toxic solids, self-heating, n.o.s. | 6.1 | UN3124 | I | 6.1, 4.2. | A5 | None | 211 | 242 | 5 kg | 15 kg | D | 40 |
|  | ..... |  |  | II | 6.1, 4.2. | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | D | 40 |
| G | Toxic solids, water-reactive, n.o.s.. | 6.1 | UN3125 | I | 6.1, 4.3. | A5 | None | 211 | 242 | 5 kg | 15 kg | D | 40 |
|  | ..... |  |  | II | 6.1, 4.3. | IB6, IP2 | None | 212 | 242 | 15 kg | 50 kg | D | 40 |
| G | Toxins, from living sources, liquid, n.o.s.. | 6.1 | UN3172 | I | 6.1 | 141 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | 141 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | 141 | 153 | 203 | 241 | 60 L | 220L | A | 40 |
| G | Toxins, from living sources, solid, n.o.s.. | 6.1 | UN3172 | I | 6.1 | 141 | None | 211 | 243 | 5 kg | 50 kg | B | ..... |
|  | ..... |  |  | II | 6.1 | 141 | None | 212 | 243 | 25 kg | 100 kg | B | ..... |
|  | ..... |  |  | III | 6.1 | 141 | 153 | 213 | 241 | 100 kg | 200 kg | A | ..... |
| D | Toy Caps | 1.4S | NA0337 | II | 1.4S | | None | 62 | None | 25 kg | 100 kg | 05 | ..... |
| | Tracers for ammunition | 1.3G | UN0212 | II | 1.3G | | None | 62 | None | Forbidden | Forbidden | 07 | ..... |
| | Tracers for ammunition | 1.4G | UN0306 | II | 1.4G | | None | 62 | None | Forbidden | 75 kg | 06 | ..... |
| | <i>Tractors, see Vehicle, etc</i> ..... |  |  |  |  |  |  |  |  |  |  |  | ..... |
| | <i>Tri-(b-nitroxyethyl) ammonium nitrate.</i> | Forbidden |  |  |  |  |  |  |  |  |  |  | ..... |
| | Triallyl borate | 6.1 | UN2609 | III | 6.1 | IB3 | 153 | 203 | 241 | 60 L | 220 L | A | 13 |
| | Triallylamine | 3 | UN2610 | III | 3, 8 | B1, IB3, T4, TP1 | None | 203 | 242 | 5 L | 60 L | A | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|---|-----------------------------------|-----------------------------------|-----------|--------------------|---|-----------------------------|-------------------|--------------|---------------------------------|-------------------------------|--------------------------|----------------|
| | | | | | | | (8A) Excep- tions | (8B) Non- bulk | (8C) Bulk | (9A) Passenger aircraft/rail | (9B) Cargo air- craft only | (10A) Loca- tion | (10B) Other |
| | Triazine pesticides, liquid, flam- mable, toxic, flash point less than 23 degrees C. | 3 | UN2764 | I | 3, 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | Forbidden | 30 L | B | 40 |
|  | ..... |  |  | II | 3, 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 1 L | 60 L | B | 40 |
| | Triazine pesticides, liquid, toxic | 6.1 | UN2998 | I | 6.1 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1 | IB3, T7, TP2, TP28 | 153 | 203 | 241 | 60 L | 220 L | A | 40 |
| | Triazine pesticides, liquid, toxic, flammable, flash point not less than 23 degrees C. | 6.1 | UN2997 | I | 6.1, 3 | T14, TP2, TP13, TP27 | None | 201 | 243 | 1 L | 30 L | B | 40 |
|  | ..... |  |  | II | 6.1, 3 | IB2, T11, TP2, TP13, TP27 | None | 202 | 243 | 5 L | 60 L | B | 40 |
|  | ..... |  |  | III | 6.1, 3 | IB3, T7, TP2, TP28 | 153 | 203 | 242 | 60 L | 220 L | A | 40 |
| | Triazine pesticides, solid, toxic .. | 6.1 | UN2763 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 40 |
|  | ..... |  |  | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | 40 |
|  | ..... |  |  | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 40 |
| | Tributylamine | 6.1 | UN2542 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | Tributylphosphane | 4.2 | UN3254 | I | 4.2 | | None | 211 | 242 | Forbidden | Forbidden | D | ..... |
| | Trichloro-s-triazinetrione dry, with more than 39 percent available chlorine, see Trichloroisocyanuric acid, dry. | | | | | | | | | | | | |
| | Trichloroacetic acid | 8 | UN1839 | II | 8 | A7, IB8, IP2, IP4, N34 | 154 | 212 | 240 | 15 kg | 50 kg | A | ..... |
| | Trichloroacetic acid, solution | 8 | UN2564 | II | 8 | A3, A6, A7, B2, IB2, N34, T7, TP2 | 154 | 202 | 242 | 1 L | 30 L | B | ..... |
|  | ..... |  |  | III | 8 | A3, A6, A7, IB3, N34, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | B | 8 |
| + | Trichloroacetyl chloride | 8 | UN2442 | II | 8, 6.1 | 2, A3, A7, B9, B14, B32, B74, N34, T20, TP2, TP38, TP45 | None | 227 | 244 | Forbidden | Forbidden | D | 40 |
| | Trichlorobenzenes, liquid | 6.1 | UN2321 | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |

| | | | | | | | | | | | | | | | | |
|---|-----------|--------|-------|------------|-------|---|------|-------|------|-------|-----------|-------|-----------|-----------|---|---------------------|
| Trichlorobutene | 6.1 | UN2322 | II | 6.1 | ..... | IB2, T7, TP2 | None | ..... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | 25, 40 |
| 1,1,1-Trichloroethane | 6.1 | UN2831 | III | 6.1 | ..... | IB3, N36, T4, TP1 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | A | 40 |
| Trichloroethylene | 6.1 | UN1710 | III | 6.1 | ..... | IB3, N36, T4, TP1 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | A | 40 |
| Trichloroisocyanuric acid, dry | 5.1 | UN2468 | II | 5.1 | ..... | IB8, IP4 | 152 | ..... | 212 | ..... | 240 | ..... | 5 kg | 25 kg | A | 13 |
| <i>Trichloromethyl perchlorate</i> | Forbidden | | | | | | | | | | | | | | | |
| Trichlorosilane | 4.3 | UN1295 | I | 4.3, 3, 8. | ..... | A7, N34, T14, TP2, TP7, TP13 | None | ..... | 201 | ..... | 244 | ..... | Forbidden | Forbidden | D | 21, 28, 40, 49, 100 |
| Tricresyl phosphate <i>with more than 3 percent ortho isomer.</i> | 6.1 | UN2574 | II | 6.1 | ..... | A3, IB2, N33, N34, T7, TP2 | None | ..... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | ..... |
| Triethyl phosphite | 3 | UN2323 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| Triethylamine | 3 | UN1296 | II | 3, 8 | ..... | IB2, T7, TP1 | None | ..... | 202 | ..... | 243 | ..... | 1 L | 5 L | B | 40 |
| Triethylenetetramine | 8 | UN2259 | II | 8 | ..... | B2, IB2, T7, TP2 | 154 | ..... | 202 | ..... | 242 | ..... | 1 L | 30 L | B | 40 |
| Trifluoroacetic acid | 8 | UN2699 | I | 8 | ..... | A3, A6, A7, B4, N3, N34, T10, TP2, TP12 | None | ..... | 201 | ..... | 243 | ..... | 0.5 L | 2.5 L | B | 12, 40 |
| Trifluoroacetyl chloride | 2.3 | UN3057 | ..... | 2.3, 8 | ..... | 2, B7, B9, B14, T50, TP21 | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 |
| Trifluorochloroethylene, stabilized. | 2.3 | UN1082 | ..... | 2.3, 2.1. | ..... | 3, B14, T50 | None | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | Forbidden | D | 40 |
| 1,1,1-Trifluoroethane, compressed or Refrigerant gas R 143a. | 2.1 | UN2035 | ..... | 2.1 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 150 kg | B | 40 |
| Trifluoromethane or Refrigerant gas R 23. | 2.2 | UN1984 | ..... | 2.2 | ..... |  | 306 | ..... | 304 | ..... | 314, 315. | ..... | 75 kg | 150 kg | A | ..... |
| Trifluoromethane, refrigerated liquid. | 2.2 | UN3136 | ..... | 2.2 | ..... | T75, TP5 | 306 | ..... | None | ..... | 314, 315. | ..... | 50 kg | 500 kg | D | ..... |
| 2-Trifluoromethylaniline | 6.1 | UN2942 | III | 6.1 | ..... | IB3 | 153 | ..... | 203 | ..... | 241 | ..... | 60 L | 220 L | A | ..... |
| 3-Trifluoromethylaniline | 6.1 | UN2948 | II | 6.1 | ..... | IB2, T7, TP2 | None | ..... | 202 | ..... | 243 | ..... | 5 L | 60 L | A | 40 |
| <i>Triformoxime trinitrate</i> | Forbidden | | | | | | | | | | | | | | | |
| Trisobutylene | 3 | UN2324 | III | 3 | ..... | B1, IB3, T4, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| Triisopropyl borate | 3 | UN2616 | II | 3 | ..... | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | A | ..... |
| ..... |  |  | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| D Trimethoxysilane | 6.1 | NA9269 | I | 6.1, 3 | ..... | 2, B9, B14, B32, B74, T20, TP4, TP12, TP13, TP38, TP45 | None | ..... | 227 | ..... | 244 | ..... | Forbidden | Forbidden | E | 40 |
| Trimethyl borate | 3 | UN2416 | II | 3 | ..... | IB2, T7, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| Trimethyl phosphite | 3 | UN2329 | III | 3 | ..... | B1, IB3, T2, TP1 | 150 | ..... | 203 | ..... | 242 | ..... | 60 L | 220 L | A | ..... |
| <i>1,3,5-Trimethyl-2,4,6-trinitrobenzene.</i> | Forbidden | | | | | | | | | | | | | | | |
| Trimethylacetyl chloride | 6.1 | UN2438 | I | 6.1, 8, 3. | ..... | 2, A3, A6, A7, B3, B9, B14, B32, B74, N34, T20, TP2, TP13, TP38, TP45 | None | ..... | 227 | ..... | 244 | ..... | Forbidden | Forbidden | D | 25, 40 |
| Trimethylamine, anhydrous | 2.1 | UN1083 | ..... | 2.1 | ..... | T50 | 306 | ..... | 304 | ..... | 314, 315. | ..... | Forbidden | 150 kg | B | 40 |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica-tion Num-bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow-age | |
|-----------------|--|--------------------------------------|---------------------------------|-----------|--------------------|--------------------------------------|-----------------------------|------------------|--------------|---------------------------------|------------------------------|-------------------------|----------------|
| | | | | | | | (8A) Excep-tions | (8B) Non-bulk | (8C) Bulk | (9A) Passenger aircraft/rail | (9B) Cargo air-craft only | (10A) Loca-tion | (10B) Other |
| | Trimethylamine, aqueous solu-tions with not more than 50 percent trimethylamine by mass. | 3 | UN1297 | I | 3, 8 | T11, TP1 | None | 201 | 243 | 0.5 L | 2.5 L | D | 40, 41 |
|  | ..... |  |  | II | 3, 8 | B1, IB2, T7, TP1 | None | 202 | 243 | 1 L | 5 L | B | 40, 41 |
|  | ..... |  |  | III | 3, 8 | B1, IB3, T7, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | 40, 41 |
| | 1,3,5-Trimethylbenzene | 3 | UN2325 | III | 3 | B1, IB3, T2, TP1 | None | 203 | 242 | 60 L | 220 L | A | ..... |
| | Trimethylchlorosilane | 3 | UN1298 | II | 3, 8 | A3, A7, B77, IB2, N34, T7, TP2, TP13 | None | 202 | 243 | 1 L | 5 L | E | 40 |
| | Trimethylcyclohexylamine | 8 | UN2326 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Trimethylene glycol diperchlorate.</i> | Forbidden | | | | | | | | | | | |
| | Trimethylhexamethylene diisocyanate. | 6.1 | UN2328 | III | 6.1 | IB3, T4, TP2, TP13 | 153 | 203 | 241 | 60 L | 220 L | B | ..... |
| | Trimethylhexamethylenediamine-s. | 8 | UN2327 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | <i>Trimethylol nitromethane trinitrate.</i> | Forbidden | | | | | | | | | | | |
| | Trinitro-meta-cresol | 1.1D | UN0216 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| | 2,4,6-Trinitro-1,3-diazobenzene | Forbidden | | | | | | | | | | | |
| | 2,4,6-Trinitro-1,3,5-triazido benzene (dry). | Forbidden | | | | | | | | | | | |
| | <i>Trinitroacetic acid</i> | Forbidden | | | | | | | | | | | |
| | <i>Trinitroacetonitrile</i> | Forbidden | | | | | | | | | | | |
| | <i>Trinitroamine cobalt</i> | Forbidden | | | | | | | | | | | |
| | Trinitroaniline or Picramide | 1.1D | UN0153 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitroanisole | 1.1D | UN0213 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitrobenzene, dry or wetted with less than 30 percent water, by mass. | 1.1D | UN0214 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitrobenzene, wetted, with not less than 10% water by mass. | 4.1 | UN3367 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| | Trinitrobenzene, wetted with not less than 30 percent water, by mass. | 4.1 | UN1354 | I | 4.1 | 23, A2, A8, A19, N41 | None | 211 | None | 0.5 kg | 0.5 kg | E | 28 |
| | Trinitrobenzenesulfonic acid | 1.1D | UN0386 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|--|-----------|--------|----|-----------|------------------------|-----------|-----------|-----------|-----------|-----------|----|--------|
| Trinitrobenzoic acid, <i>dry or wetted with less than 30 percent water, by mass.</i> | 1.1D | UN0215 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitrobenzoic acid, <i>wetted, with not less than 10% water by mass.</i> | 4.1 | UN3368 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| Trinitrobenzoic acid, <i>wetted with not less than 30 percent water, by mass.</i> | 4.1 | UN1355 | I | 4.1 | 23, A2, A8, A19, N41 | None | 211 | None | 0.5 kg | 0.5 kg | E | 28 |
| Trinitrochlorobenzene or Picryl chloride. | 1.1D | UN0155 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitrochlorobenzene (picryl chloride), <i>wetted, with not less than 10% water by mass.</i> | 4.1 | UN3365 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| Trinitroethanol | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Trinitroethylnitrate | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Trinitrofluorenone | 1.1D | UN0387 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitromethane | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| 1,3,5-Trinitronaphthalene | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Trinitronaphthalene | 1.1D | UN0217 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitrophenetole | 1.1D | UN0218 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitrophenol or Picric acid, <i>dry or wetted with less than 30 percent water, by mass.</i> | 1.1D | UN0154 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| Trinitrophenol (picric acid), <i>wetted, with not less than 10% water by mass.</i> | 4.1 | UN3364 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| Trinitrophenol, <i>wetted with not less than 30 percent water, by mass.</i> | 4.1 | UN1344 | I | 4.1 | 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 |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Trinitrophenylmethyl nitramine or Tetryl. | 1.1D | UN0208 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| Trinitroresorcinol or Styphnic acid, <i>dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass.</i> | 1.1D | UN0219 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| Trinitroresorcinol, <i>wetted or Styphnic acid, wetted with not less than 20 percent water, or mixture of alcohol and water by mass.</i> | 1.1D | UN0394 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| 2,4,6-Trinitroso-3-methyl nitraminoanisoole. | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |
| Trinitrotetramine cobalt nitrate ... | Forbidden |  |  | ..... |  | ..... | ..... | ..... | ..... | ..... |  | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| (1) Sym- bols | (2) Hazardous materials descrip- tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|---------------------|---|---|---|-----------|-----------------------|--|-----------------------------|----------------------|--------------|------------------------------------|----------------------------------|-----------------------------|----------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | Trinitrotoluene and Trinitrobenzene mixtures or TNT and trinitrobenzene mix- tures or TNT and hexanitrostilbene mixtures or Trinitrotoluene and hexanitrostilbene mixtures. | 1.1D | UN0388 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitrotoluene mixtures con- taining Trinitrobenzene and Hexanitrostilbene or TNT mix- tures containing trinitrobenzene and hexanitrostilbene. | 1.1D | UN0389 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitrotoluene or TNT, dry or wetted with less than 30 per- cent water, by mass. | 1.1D | UN0209 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Trinitrotoluene (TNT), wetted, with not less than 10% water by mass. | 4.1 | UN3366 | I | 4.1 | 162, A8, A19, N41, N84 | None | 211 | None | 0.5 kg | 0.5 kg | E | 36 |
| | Trinitrotoluene, wetted with not less than 30 percent water, by mass. | 4.1 | UN1356 | I | 4.1 | 23, A2, A8, A19, N41 | None | 211 | None | 0.5 kg | 0.5 kg | E | 28 |
| | Tripropylamine | 3 | UN2260 | III | 3, 8 | B1, IB3, T4, TP1 | 150 | 203 | 242 | 5 L | 60 L | A | 40 |
| | Tripropylene | 3 | UN2057 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... | ..... | ..... | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Tris-(1-aziridinyl)phosphine oxide, solution. | 6.1 | UN2501 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
|  | ..... | ..... | ..... | III | 6.1 | IB3, T4, TP1 | 153 | 203 | 241 | 60 L | 220 L | A | ..... |
| | Tris, bis-bifluoroamino diethoxy propane (TVOPA). | Forbidden | | | | | | | | | | | |
| | Tritonal | 1.1D | UN0390 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 10 | ..... |
| | Tungsten hexafluoride | 2.3 | UN2196 | ..... | 2.3, 8 | 2 | None | 338 | None | Forbidden | Forbidden | D | 40 |
| | Turpentine | 3 | UN1299 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Turpentine substitute | 3 | UN1300 | I | 3 | T11, TP1, TP8, TP27 | None | 201 | 243 | 1 L | 30 L | B | ..... |
|  | ..... | ..... | ..... | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... | ..... | ..... | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Undecane | 3 | UN2330 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |

| | | | | | | | | | | | | | | | | |
|---|--|-------|--------|-------|------------|--|--------------|-------|----------------------|---------------------|-------|-------|-----------|-----------|-------|--------|
| D | Uranium hexafluoride, <i>fissile excepted or non-fissile.</i> | 7 | UN2978 | ..... | 7, 8 | ..... | 423 | ..... | 420,, 427. | 420, 427. | ..... | ..... | A | 95, 132 | | |
| D | Uranium hexafluoride, fissile (<i>with more than 1 percent U-235</i>). | 7 | UN2977 | ..... | 7, 8 | ..... | 453 | ..... | 417, 420. | 417, 420. | ..... | ..... | A | 95, 132 | | |
| D | Uranium metal, pyrophoric | 7 | UN2979 | ..... | 7, 4.2 | A56 | None | ..... | 418 | ..... | None | ..... | ..... | D | 95 | |
| D | Uranyl nitrate hexahydrate solution. | 7 | UN2980 | ..... | 7, 8 | ..... | 421, 427. | ..... | 415, 416, 417. | 415, 416 417. | ..... | ..... | D | 95 | | |
| D | Uranyl nitrate, solid | 7 | UN2981 | ..... | 7, 5.1 | ..... | None | ..... | 419 | ..... | None | ..... | Forbidden | 15 kg | A | 95 |
| | Urea hydrogen peroxide | 5.1 | UN1511 | ..... | III 5.1, 8 | A1, A7, A29, IB8, IP3 | 152 | ..... | 213 | ..... | 240 | ..... | 25 kg | 100 kg | A | 13 |
| | Urea nitrate, <i>dry or wetted with less than 20 percent water, by mass.</i> | 1.1D | UN0220 | ..... | II 1.1D | ..... | 119 | ..... | 62 | ..... | None | ..... | Forbidden | Forbidden | 10 | ..... |
| | Urea nitrate, <i>wetted, with not less than 10% water by mass.</i> | 4.1 | UN3370 | ..... | I 4.1 | 162, A8, A19, N41, N83 | None | ..... | 211 | ..... | None | ..... | 0.5 kg | 0.5 kg | E | 36 |
| | Urea nitrate, <i>wetted with not less than 20 percent water, by mass.</i> | 4.1 | UN1357 | ..... | I 4.1 | 23, 39, A8, A19, N41 | None | ..... | 211 | ..... | None | ..... | 1 kg | 15 kg | E | 28, 36 |
| | Urea peroxide, <i>see Urea hydrogen peroxide.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Valeraldehyde | 3 | UN2058 | ..... | II 3 | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |
| | Valeric acid, <i>see Corrosive liquids, n.o.s.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Valeryl chloride | 8 | UN2502 | ..... | II 8, 3 | A3, A6, A7, B2, IB2, N34, T7, TP2 | 154 | ..... | 202 | ..... | 243 | ..... | 1 L | 30 L | C | 40 |
| | Vanadium compound, n.o.s. | 6.1 | UN3285 | ..... | I 6.1 | IB7, IP1, T14, TP2, TP27 | None | ..... | 211 | ..... | 242 | ..... | 5 kg | 50 kg | B | ..... |
|  | ..... | ..... | ..... | ..... | II 6.1 | IB8, IP2, IP4, T11, TP2, TP27 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | B | ..... |
|  | ..... | ..... | ..... | ..... | III 6.1 | IB8, IP3, T7, TP1, TP28 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | ..... |
| | Vanadium oxytrichloride | 8 | UN2443 | ..... | II 8 | A3, A6, A7, B2, B16, IB2, N34, T7, TP2 | 154 | ..... | 202 | ..... | 242 | ..... | Forbidden | 30 L | C | 40 |
| | Vanadium pentoxide, <i>non-fused form.</i> | 6.1 | UN2862 | ..... | III 6.1 | IB8, IP3 | 153 | ..... | 213 | ..... | 240 | ..... | 100 kg | 200 kg | A | 40 |
| | Vanadium tetrachloride | 8 | UN2444 | ..... | I 8 | A3, A6, A7, B4, N34, T10, TP2 | None | ..... | 201 | ..... | 243 | ..... | Forbidden | 2.5 L | C | 40 |
| | Vanadium trichloride | 8 | UN2475 | ..... | III 8 | IB8, IP3 | 154 | ..... | 213 | ..... | 240 | ..... | 25 kg | 100 kg | A | 40 |
| | Vanadyl sulfate | 6.1 | UN2931 | ..... | II 6.1 | IB8, IP2, IP4 | None | ..... | 212 | ..... | 242 | ..... | 25 kg | 100 kg | A | ..... |
| | Vehicle, flammable gas powered | 9 | UN3166 | ..... | 9 | 135, 157 | 220 | ..... | 220 | ..... | 220 | ..... | Forbidden | No limit | A | ..... |
| | Vehicle, flammable liquid powered.. | 9 | UN3166 | ..... | 9 | 135, 157 | 220 | ..... | 220 | ..... | 220 | ..... | No limit | No limit | A | ..... |
| | Very signal cartridge, <i>see Cartridges, signal.</i> | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Vinyl acetate, stabilized | 3 | UN1301 | ..... | II 3 | IB2, T4, TP1 | 150 | ..... | 202 | ..... | 242 | ..... | 5 L | 60 L | B | ..... |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym-bols | Hazardous materials descrip-tions and proper shipping names | Hazard class or Di- vision | Identifica- tion Num- bers | PG | Label Codes | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|----------|---|----------------------------|----------------------------|-------|-------------|---------------------------------|--------------------------|-----------|------------|--------------------------|-----------------------|-----------------------|-------|
| | | | | | | | Excep- tions | Non- bulk | Bulk | Passenger aircraft/rail | Cargo air- craft only | Loca- tion | Other |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| | Vinyl bromide, stabilized | 2.1 | UN1085 | ..... | 2.1 | T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Vinyl butyrate, stabilized | 3 | UN2838 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Vinyl chloride, stabilized | 2.1 | UN1086 | ..... | 2.1 | 21, B44, T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Vinyl chloroacetate | 6.1 | UN2589 | II | 6.1, 3 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | Vinyl ethyl ether, stabilized | 3 | UN1302 | I | 3 | A3, T11, TP2 | None | 201 | 243 | 1 L | 30 L | D | ..... |
| | Vinyl fluoride, stabilized | 2.1 | UN1860 | ..... | 2.1 | | 306 | 304 | 314, 315. | Forbidden | 150 kg | E | 40 |
| | Vinyl isobutyl ether, stabilized | 3 | UN1304 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
| | Vinyl methyl ether, stabilized | 2.1 | UN1087 | ..... | 2.1 | B44, T50 | 306 | 304 | 314, 315. | Forbidden | 150 kg | B | 40 |
| | Vinyl nitrate polymer | Forbidden | | | | | | | | | | | |
| | Vinylidene chloride, stabilized | 3 | UN1303 | I | 3 | T12, TP2, TP7 | 150 | 201 | 243 | 1 L | 30 L | E | 40 |
| | Vinylpyridines, stabilized | 6.1 | UN3073 | II | 6.1, 3, 8. | IB1, T7, TP2, TP13 | None | 202 | 243 | 1 L | 30 L | B | 40 |
| | Vinyltoluenes, stabilized | 3 | UN2618 | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Vinyltrichlorosilane, stabilized | 3 | UN1305 | I | 3, 8 | A3, A7, B6, N34, T11, TP2, TP13 | None | 201 | 243 | Forbidden | 2.5 L | B | 40 |
| | Warheads, rocket with burster or expelling charge. | 1.4D | UN0370 | II | 1.4D .. | | None | 62 | None | Forbidden | 75 kg | 02 | ..... |
| | Warheads, rocket with burster or expelling charge. | 1.4F | UN0371 | II | 1.4F ... | | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| | Warheads, rocket with bursting charge. | 1.1D | UN0286 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Warheads, rocket with bursting charge. | 1.2D | UN0287 | II | 1.2D .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| | Warheads, rocket with bursting charge. | 1.1F | UN0369 | II | 1.1F ... | | None | 62 | None | Forbidden | Forbidden | 08 | ..... |
| | Warheads, torpedo with bursting charge. | 1.1D | UN0221 | II | 1.1D .. | | None | 62 | None | Forbidden | Forbidden | 03 | ..... |
| G | Water-reactive liquid, corrosive, n.o.s.. | 4.3 | UN3129 | I | 4.3, 8 | | None | 201 | 243 | Forbidden | 1 L | D | ..... |
|  | ..... |  |  | II | 4.3, 8 | IB1 | None | 202 | 243 | 1 L | 5 L | E | 85 |
|  | ..... |  |  | III | 4.3, 8 | IB2 | None | 203 | 242 | 5 L | 60 L | E | ..... |
| G | Water-reactive liquid, n.o.s. | 4.3 | UN3148 | I | 4.3 | | None | 201 | 244 | Forbidden | 1 L | E | 40 |
|  | ..... |  |  | II | 4.3 | IB1 | None | 202 | 243 | 1 L | 5 L | E | 40 |
|  | ..... |  |  | III | 4.3 | IB2 | None | 203 | 242 | 5 L | 60 L | E | 40 |
| G | Water-reactive liquid, toxic, n.o.s.. | 4.3 | UN3130 | I | 4.3, 6.1. | A4 | None | 201 | 243 | Forbidden | 1 L | D | ..... |

§ 172.101
49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | | |
|---------|---|-----|--------|-----|-----------|------------------------|------|------|------|-----------|-----------|---|--------|
| | | | | II | 4.3, 6.1. | IB1 | None | 202 | 243 | 1 L | 5 L | E | 85 |
| | | | | III | 4.3, 6.1. | IB2 | None | 203 | 242 | 5 L | 60 L | E | 85 |
| G | Water-reactive solid, corrosive, n.o.s. | 4.3 | UN3131 | I | 4.3, 8 | IB4, IP1, N40 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| | | | | II | 4.3, 8 | IB6, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | E | 85 |
| G | Water-reactive solid, flammable, n.o.s. | 4.3 | UN3132 | III | 4.3, 8 | IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | E | 85 |
| | | | | I | 4.3, 4.1. | IB4, N40 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| | | | | II | 4.3, 4.1. | IB4 | 151 | 212 | 242 | 15 kg | 50 kg | E | ..... |
| | | | | III | 4.3, 4.1. | IB6 | 151 | 213 | 241 | 25 kg | 100 kg | E | ..... |
| G | Water-reactive solid, n.o.s. | 4.3 | UN2813 | I | 4.3 | IB4, N40 | None | 211 | 242 | Forbidden | 15 kg | E | 40 |
| | | | | II | 4.3 | IB7, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | E | 40 |
| G | Water-reactive, solid, oxidizing, n.o.s. | 4.3 | UN3133 | III | 4.3 | IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | E | 40 |
| | | | | II | 4.3, 5.1. | | None | 214 | 214 | Forbidden | Forbidden | E | 40 |
| | | | | III | 4.3, 5.1. | | None | 214 | 214 | Forbidden | Forbidden | E | 40 |
| G | Water-reactive solid, self-heating, n.o.s. | 4.3 | UN3135 | I | 4.3, 4.2. | N40 | None | 211 | 242 | Forbidden | 15 kg | E | ..... |
| | | | | II | 4.3, 4.2. | IB5, IP2 | None | 212 | 242 | 15 kg | 50 kg | E | ..... |
| | | | | III | 4.3, 4.2. | IB8, IP4 | None | 213 | 241 | 25 kg | 100 kg | E | ..... |
| G | Water-reactive solid, toxic, n.o.s. | 4.3 | UN3134 | I | 4.3, 6.1. | A8, IB4, IP1, N40 | None | 211 | 242 | Forbidden | 15 kg | D | ..... |
| | | | | II | 4.3, 6.1. | IB5, IP2 | 151 | 212 | 242 | 15 kg | 50 kg | E | 85 |
| | | | | III | 4.3, 6.1. | IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | E | 85 |
| | <i>Wheel chair, electric, see Battery powered vehicle or Battery powered equipment.</i> | | | | | | | | | | | | |
| | <i>White acid, see Hydrofluoric acid.</i> | | | | | | | | | | | | |
| I | White asbestos (<i>chrysotile, actinolite, anthophyllite, tremolite</i>). | 9 | UN2590 | III | 9 | 156, IB8, IP2, IP3 | 155 | 216 | 240 | 200 kg | 200 kg | A | 34, 40 |
| | Wood preservatives, liquid | 3 | UN1306 | II | 3 | 149, IB2, T4, TP1, TP8 | 150 | 202 | 242 | 5 L | 60 L | B | |
| | Xanthates | 4.2 | UN3342 | II | 4.2 | IB6, IP2 | None | 212 | 241 | 15 kg | 50 kg | D | 40 |
| | | | | III | 4.2 | IB8, IP3 | None | 213 | 241 | 25 kg | 100 kg | D | 40 |
| A, I, W | Wool waste, wet | 4.2 | UN1387 | III | 4.2 | | 151 | 213 | 240 | Forbidden | Forbidden | A | |
| | Xenon | 2.2 | UN2036 | | 2.2 | | 306 | 302 | None | 75 kg | 150 kg | A | |
| | Xenon, refrigerated liquid (<i>cryogenic liquids</i>). | 2.2 | UN2591 | | 2.2 | T75, TP5 | 320 | None | None | 50 kg | 500 kg | B | |

§ 172.101 HAZARDOUS MATERIALS TABLE—Continued

| Sym- bols (1) | Hazardous materials descrip- tions and proper shipping names (2) | Hazard class or Di- vision (3) | Identifica- tion Num- bers (4) | PG (5) | Label Codes (6) | Special provisions (§172.102) (7) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-------------------------|---|---|---|---------------|---------------------------|--|-----------------------------|--------------------------|------------------|--|--------------------------------------|-----------------------------|-------------------------------|
| | | | | | | | Excep- tions (8A) | Non- bulk (8B) | Bulk (8C) | Passenger aircraft/rail (9A) | Cargo air- craft only (9B) | Loca- tion (10A) | Other (10B) |
| | | | | | | | | | | | | | |
| | Xylenes | 3 | UN1307 | II | 3 | IB2, T4, TP1 | 150 | 202 | 242 | 5 L | 60 L | B | ..... |
|  | ..... |  |  | III | 3 | B1, IB3, T2, TP1 | 150 | 203 | 242 | 60 L | 220 L | A | ..... |
| | Xylenols | 6.1 | UN2261 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Xylidines, liquid | 6.1 | UN1711 | II | 6.1 | IB2, T7, TP2 | None | 202 | 243 | 5 L | 60 L | A | ..... |
| | Xylidines, solid | 6.1 | UN1711 | II | 6.1 | IB8, IP2, IP4, T7, TP2 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Xylyl bromide | 6.1 | UN1701 | II | 6.1 | A3, A6, A7, IB2, N33, T7, TP2, TP13 | None | 340 | None | Forbidden | 60 L | D | 40 |
| | <i>p</i> -Xylyl diazide | Forbidden | | | | | | | | | | | |
| | Zinc ammonium nitrite | 5.1 | UN1512 | II | 5.1 | IB8, IP4 | None | 212 | 242 | 5 kg | 25 kg | E | ..... |
| | Zinc arsenate or Zinc arsenite or Zinc arsenate and zinc arsenite mixtures. | 6.1 | UN1712 | II | 6.1 | IB8, IP2, IP4 | None | 212 | 242 | 25 kg | 100 kg | A | ..... |
| | Zinc ashes | 4.3 | UN1435 | III | 4.3 | A1, A19, IB8, IP4 | 151 | 213 | 241 | 25 kg | 100 kg | A | ..... |
| | Zinc bisulfite solution, see Bisulfites, aqueous solutions, n.o.s.. | | | | | | | | | | | | |
| | Zinc bromate | 5.1 | UN2469 | III | 5.1 | A1, A29, IB8, IP3 | 152 | 213 | 240 | 25 kg | 100 kg | A | 56, 58, 106 |
| | Zinc chlorate | 5.1 | UN1513 | II | 5.1 | A9, IB8, IP2, IP4, N34 | 152 | 212 | 242 | 5 kg | 25 kg | A | 56, 58, 106 |
| | Zinc chloride, anhydrous | 8 | UN2331 | III | 8 | IB8, IP3 | None | 213 | 240 | 25 kg | 100 kg | A | ..... |
| | Zinc chloride, solution | 8 | UN1840 | III | 8 | IB3, T4, TP1 | 154 | 203 | 241 | 5 L | 60 L | A | ..... |
| | Zinc cyanide | 6.1 | UN1713 | I | 6.1 | IB7, IP1 | None | 211 | 242 | 5 kg | 50 kg | A | 26 |
| | Zinc dithionite or Zinc hydro- sulfite. | 9 | UN1931 | III | None | IB8 | 155 | 204 | 240 | 100 kg | 200 kg | A | 49 |
| | Zinc ethyl, see Diethylzinc | | | | | | | | | | | | |
| | Zinc fluorosilicate | 6.1 | UN2855 | III | 6.1 | IB8, IP3 | 153 | 213 | 240 | 100 kg | 200 kg | A | 26 |
| | Zinc hydrosulfite, see Zinc dithionite. | | | | | | | | | | | | |
| | Zinc muriate solution, see Zinc chloride, solution. | | | | | | | | | | | | |
| | Zinc nitrate | 5.1 | UN1514 | II | 5.1 | IB8, IP4 | 152 | 212 | 240 | 5 kg | 25 kg | A | ..... |
| | Zinc permanganate | 5.1 | UN1515 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | D | 56, 58, 69, 106, 107 |

§ 172.101

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | | | | | |
|---|-------|--------|-------|-----------|-----------------------------|------------|-----------|------------|-----------|-----------|-------|-------------|
| Zinc peroxide | 5.1 | UN1516 | II | 5.1 | IB6, IP2 | 152 | 212 | 242 | 5 kg | 25 kg | A | 13, 75, 106 |
| Zinc phosphide | 4.3 | UN1714 | I | 4.3, 6.1. | A19, N40 | None | 211 | None | Forbidden | 15 kg | E | 40, 85 |
| Zinc powder or Zinc dust | 4.3 | UN1436 | I | 4.3, 4.2. | A19, IB4, IP1, N40 | None | 211 | 242 | Forbidden | 15 kg | A | ..... |
| ..... | ..... | ..... | II | 4.3, 4.2. | A19, IB7, IP2 | None | 212 | 242 | 15 kg | 50 kg | A | ..... |
| ..... | ..... | ..... | III | 4.3, 4.2. | IB8, IP4 | None | 213 | 242 | 25 kg | 100 kg | A | ..... |
| Zinc resinate | 4.1 | UN2714 | III | 4.1 | A1, IB6 | 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 | 4.1 | A1, IB8 | 151 | 213 | 240 | 25 kg | 100 kg | A | ..... |
| Zirconium, dry, finished sheets, strip or coiled wire. | 4.2 | UN2009 | III | 4.2 | A1, A19, IB8 | None | 213 | 240 | 25 kg | 100 kg | D | ..... |
| Zirconium hydride | 4.1 | UN1437 | II | 4.1 | A19, A20, IB4, N34 | None | 212 | 240 | 15 kg | 50 kg | E | ..... |
| Zirconium nitrate | 5.1 | UN2728 | III | 5.1 | A1, A29, IB8, IP3 | 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 | 1.3C .. | ..... | None | 62 | None | Forbidden | Forbidden | 10 | 5E |
| Zirconium picramate, wetted with not less than 20 percent water, by mass. | 4.1 | UN1517 | I | 4.1 | 23, N41 | None | 211 | None | 1 kg | 15 kg | D | 28, 36 |
| Zirconium powder, dry | 4.2 | UN2008 | I | 4.2 ..... | ..... | None | 211 | 242 | Forbidden | Forbidden | D | ..... |
| ..... | ..... | ..... | II | 4.2 | A19, A20, IB6, IP2, N5, N34 | None | 212 | 241 | 15 kg | 50 kg | D | ..... |
| ..... | ..... | ..... | III | 4.2 | IB8, IP3 | 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 | 4.1 | A19, A20, IB6, IP2, N34 | None | 212 | 241 | 15 kg | 50 kg | E | ..... |
| Zirconium scrap | 4.2 | UN1932 | III | 4.2 | IB8, IP3, N34 | None | 213 | 240 | Forbidden | Forbidden | D | ..... |
| Zirconium suspended in a liquid | 3 | UN1308 | I | 3 ..... | ..... | None | 201 | 243 | Forbidden | Forbidden | B | ..... |
| ..... | ..... | ..... | II | 3 | IB2 | None | 202 | 242 | 5 L | 60 L | B | ..... |
| ..... | ..... | ..... | III | 3 | B1, IB2 | 150 | 203 | 242 | 60 L | 220 L | B | ..... |
| Zirconium tetrachloride | 8 | UN2503 | III | 8 | IB8, IP3 | 154 | 213 | 240 | 25 kg | 100 kg | A | ..... |

§ 172.101

49 CFR Ch. I (10–1–03 Edition)

[Amdt. 172-173, 55 FR 52474, Dec. 21, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 172.101, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EDITORIAL NOTE: At 68 FR 45020, July 31, 2003, § 172.101 was amended by revising entries in the Hazardous Materials Table; however, two amendments could not be incorporated because those entries do not exist. For the convenience of the user, the revised text is set forth as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

§ 172.101 HAZARDOUS MATERIALS TABLE

| (1) Sym-bols | (2) Hazardous materials descrip-tions and proper shipping names | (3) Hazard class or Di- vision | (4) Identifica- tion Num- bers | (5) PG | (6) Label Codes | (7) Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stow- age | |
|-----------------|--|-----------------------------------|-----------------------------------|------------|--------------------|--------------------------------------|-----------------------------|-------------------|----------------|---------------------------------|-------------------------------|--------------------------|----------------|
| | | | | | | | (8A) Excep- tions | (8B) Non- bulk | (8C) Bulk | (9A) Passenger aircraft/rail | (9B) Cargo air- craft only | (10A) Loca- tion | (10B) Other |
| | * * Dipicryl dulcide, wetted <i>with not less than 10 percent water, by mass.</i> | * 4.1 | UN2852 | * I | 4.1 | * 162, A2, N41, N84 | * None | * 211 | * None | * Forbidden | * 0.5 kg | * D | * 28 |
| | * * Polyester resin | * 3 | UN3269 | * | 3 | * 40, 149 | * 152 | * 225 | * None | * 5 kg | * 5 kg | * B | |
| | * | * | | * | | * | * | * | * | * | * | | |

APPENDIX A TO § 172.101—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

1. This appendix lists materials and their corresponding reportable quantities (RQ's) that are listed or designated as "hazardous substances" under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601(14) (CERCLA; 42 U.S.C. 9601 *et seq.*). This listing fulfills the requirement of CERCLA, 42 U.S.C. 9656(a), that all "hazardous substances," as defined in 42 U.S.C. 9601(14), be listed and regulated as hazardous materials under 49 U.S.C. 5101-5127. That definition includes substances listed under sections 311(b)(2)(A) and 307(a) of the Federal Water Pollution Control Act, 33 U.S.C. 1321(b)(2)(A) and 1317(a), section 3001 of the Solid Waste Disposal Act, 42 U.S.C. 6921, and section 112 of the Clean Air Act, 42 U.S.C. 7412. In addition, this list contains materials that the Administrator of the Environmental Protection Agency has determined to be hazardous substances in accordance with section 102 of CERCLA, 42 U.S.C. 9602. It should be noted that 42 U.S.C. 9656(b) provides that common and contract carriers may be held liable under laws other than CERCLA for the release of a hazardous substance as defined in that Act, during transportation that commenced before the effective date of the listing and regulating of that substance as a hazardous material under 49 U.S.C. 5101-5127.

2. This appendix is divided into two TABLES which are entitled "TABLE 1—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES" and "TABLE 2—RADIONUCLIDES." A material listed in this appendix is regulated as a hazardous material and a hazardous substance under this subchapter if it meets the definition of a hazardous substance in § 171.8 of this subchapter.

3. The procedure for selecting a proper shipping name for a hazardous substance is set forth in § 172.101(c).

4. Column 1 of TABLE 1, entitled "*Hazardous substance*", contains the names of those elements and compounds that are hazardous substances. Following the listing of elements and compounds is a listing of waste streams. These waste streams appear on the list in numerical sequence and are referenced by the appropriate "D", "F", or "K" numbers. Column 2 of TABLE 1, entitled "*Reportable quantity (RQ)*", contains the report-

able quantity (RQ), in pounds and kilograms, for each hazardous substance listed in Column 1 of TABLE 1.

5. A series of notes is used throughout TABLE 1 and TABLE 2 to provide additional information concerning certain hazardous substances. These notes are explained at the end of each TABLE.

6. TABLE 2 lists radionuclides that are hazardous substances and their corresponding RQ's. The RQ's in table 2 for radionuclides are expressed in units of curies and terabecquerels, whereas those in table 1 are expressed in units of pounds and kilograms. If a material is listed in both table 1 and table 2, the lower RQ shall apply. Radionuclides are listed in alphabetical order. The RQ's for radionuclides are given in the radiological unit of measure of curie, abbreviated "Ci", followed, in parentheses, by an equivalent unit measured in terabecquerels, abbreviated "TBq".

7. For mixtures of radionuclides, the following requirements shall be used in determining if a package contains an RQ of a hazardous substance: (i) if the identity and quantity (in curies or terabecquerels) of each radionuclide in a mixture or solution is known, the ratio between the quantity per package (in curies or terabecquerels) and the RQ for the radionuclide must be determined for each radionuclide. A package contains an RQ of a hazardous substance when the sum of the ratios for the radionuclides in the mixture or solution is equal to or greater than one; (ii) if the identity of each radionuclide in a mixture or solution is known but the quantity per package (in curies or terabecquerels) of one or more of the radionuclides is unknown, an RQ of a hazardous substance is present in a package when the total quantity (in curies or terabecquerels) of the mixture or solution is equal to or greater than the lowest RQ of any individual radionuclide in the mixture or solution; and (iii) if the identity of one or more radionuclides in a mixture or solution is unknown (or if the identity of a radionuclide by itself is unknown), an RQ of a hazardous substance is present when the total quantity (in curies or terabecquerels) in a package is equal to or greater than either one curie or the lowest RQ of any known individual radionuclide in the mixture or solution, whichever is lower.

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|-------------------------------|---|
| Acenaphthene | 100 (45.4) |
| Acenaphthylene | 5000 (2270) |
| Acetaldehyde | 1000 (454) |
| Acetaldehyde, chloro | 1000 (454) |
| Acetaldehyde, trichloro | 5000 (2270) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|------------------------------------|---|
| Acetamide | 100 (45.4) |
| Acetamide, N-(aminothioxomethyl)- | 1000 (454) |
| Acetamide, N-(4-ethoxyphenyl)- | 100 (45.4) |
| Acetamide, N-fluoren-2-yl- | 1 (0.454) |
| Acetamide, 2-fluoro- | 100 (45.4) |
| Acetic acid | 5000 (2270) |
| Acetic acid (2,4-dichlorophenoxy)- | 100 (45.4) |
| Acetic acid, ethyl ester | 5000 (2270) |
| Acetic acid, fluoro-, sodium salt | 10 (4.54) |
| Acetic acid, lead (2+) salt | 10 (4.54) |
| Acetic acid, thallium(I+) salt | 1000 (454) |
| Acetic anhydride | 5000 (2270) |
| Acetone | 5000 (2270) |
| Acetone cyanohydrin | 10 (4.54) |
| Acetonitrile | 5000 (2270) |
| Acetophenone | 5000 (2270) |
| 2-Acetylaminofluorene | 1 (0.454) |
| Acetyl bromide | 5000 (2270) |
| Acetyl chloride | 5000 (2270) |
| 1-Acetyl-2-thiourea | 1 (0.454) |
| Acrolein | 1(0.454) |
| Acrylamide | 5000 (2270) |
| Acrylic acid | 5000 (2270) |
| Acrylonitrile | 100 (45.4) |
| Adipic acid | 5000 (2270) |
| AldicarbD1 (0.454). | |
| Aldrin | 1 (0.454) |
| Allyl alcohol | 100 (45.4) |
| Allyl chloride | 1000 (454) |
| Aluminum phosphide | 100 (45.4) |
| Aluminum sulfate | 5000 (2270) |
| 4-Aminobiphenyl | 1 (0.454) |
| 5-(Aminomethyl)-3-isoxazolol | 1000 (454) |
| 4-Aminopyridine | 1000 (454) |
| Amitrole | 10 (4.54) |
| Ammonia | 100 (45.4) |
| Ammonium acetate | 5000 (2270) |
| Ammonium benzoate | 5000 (2270) |
| Ammonium bicarbonate | 5000 (2270) |
| Ammonium bichromate | 10 (4.54) |
| Ammonium bifluoride | 100 (45.4) |
| Ammonium bisulfite | 5000 (2270) |
| Ammonium carbamate | 5000 (2270) |
| Ammonium carbonate | 5000 (2270) |
| Ammonium chloride | 5000 (2270) |
| Ammonium chromate | 10 (4.54) |
| Ammonium citrate, dibasic | 5000 (2270) |
| Ammonium dichromate @ | 10 (4.54) |
| Ammonium fluoborate | 5000 (2270) |
| Ammonium fluoride | 100 (45.4) |
| Ammonium hydroxide | 1000 (454) |
| Ammonium oxalate | 5000 (2270) |
| Ammonium picrate | 10 (4.54) |
| Ammonium silicofluoride | 1000 (454) |
| Ammonium sulfamate | 5000 (2270) |
| Ammonium sulfide | 100 (45.4) |
| Ammonium sulfite | 5000 (2270) |
| Ammonium tartrate | 5000 (2270) |
| Ammonium thiocyanate | 5000 (2270) |
| Ammonium vanadate | 1000 (454) |
| Amyl acetate | 5000 (2270) |
| iso-Amyl acetate | |
| sec-Amyl acetate | |
| tert-Amyl acetate | |
| Aniline | 5000 (2270) |
| o-Anisidine | 100 (45.4) |
| Anthracene | 5000 (2270) |
| Antimony ♂ | 5000 (2270) |
| Antimony pentachloride | 1000 (454) |
| Antimony potassium tartrate | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| Antimony tribromide | 1000 (454) |
| Antimony trichloride | 1000 (454) |
| Antimony trifluoride | 1000 (454) |
| Antimony trioxide | 1000 (454) |
| Argentate(1-), bis(cyano-C)-, potassium | 1 (0.454) |
| Aroclor 1016 | 1 (0.454) |
| Aroclor 1221 | 1 (0.454) |
| Aroclor 1232 | 1 (0.454) |
| Aroclor 1242 | 1 (0.454) |
| Aroclor 1248 | 1 (0.454) |
| Aroclor 1254 | 1 (0.454) |
| Aroclor 1260 | 1 (0.454) |
| Arsenic ⅈ | 1 (0.454) |
| Arsenic acid | 1 (0.454) |
| Arsenic acid H3AsO4 | 1 (0.454) |
| Arsenic disulfide | 1 (0.454) |
| Arsenic oxide As2O3 | 1 (0.454) |
| Arsenic oxide As2O5 | 1 (0.454) |
| Arsenic pentoxide | 1 (0.454) |
| Arsenic trichloride | 1 (0.454) |
| Arsenic trioxide | 1 (0.454) |
| Arsenic trisulfide | 1 (0.454) |
| Arsine, diethyl- | 1 (0.454) |
| Arsinic acid, dimethyl- | 1 (0.454) |
| Arsonous dichloride, phenyl- | 1 (0.454) |
| Asbestos ⅈⅈ | 1 (0.454) |
| Auramine100 (45.4). | |
| Azaserine | 1 (0.454) |
| Aziridine | 1 (0.454) |
| Aziridine, 2-methyl- | 1 (0.454) |
| Azirino[2',3':3,4]pyrrolo(1,2-a)indole-4,7-dione,6-amino-8-[[[(aminocarbonyl)oxy] methyl]-1,1a,2,8,8a, 8b-hexahydro-8a-methoxy-5-methyl-, [1aS-[aalpha,8beta,8aalpha,8balpha]]- | 10 (4.54) |
| Barium cyanide | 10 (4.54) |
| Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- | 10 (4.54) |
| Benz[c]acridine | 100 (45.4) |
| 3,4-Benzacridine | 100 (45.4) |
| Benzal chloride | 5000 (2270) |
| Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl) | 5000 (2270) |
| Benz[a]anthracene | 10 (4.54) |
| 1,2-Benzanthracene | 10 (4.54) |
| Benz[a]anthracene, 7,12-dimethyl- | 1 (0.454) |
| Benzenamine | 5000 (2270) |
| Benzenamine, 4,4'-carbonimidoylbis (N,N-dimethyl- | 100 (45.4) |
| Benzenamine, 4-chloro- | 1000 (454) |
| Benzenamine, 4-chloro-2-methyl-, hydrochloride | 100 (45.4) |
| Benzenamine, N,N-dimethyl-4-(phenylazo)- | 10 (4.54) |
| Benzenamine, 2-methyl- | 100 (45.4) |
| Benzenamine, 4-methyl- | 100 (45.4) |
| Benzenamine, 4,4'-methylenebis(2-chloro- | 10 (4.54) |
| Benzenamine, 2-methyl-, hydrochloride | 100 (45.4) |
| Benzenamine, 2-methyl-5-nitro- | 100 (45.4) |
| Benzenamine, 4-nitro- | 5000 (2270) |
| Benzene | 10 (4.54) |
| Benzene, 1-bromo-4-phenoxy- | 100 (45.4) |
| Benzene, chloro- | 100 (45.4) |
| Benzene, chloromethyl- | 100 (45.4) |
| Benzene, 1,2-dichloro- | 100 (45.4) |
| Benzene, 1,3-dichloro- | 100 (45.4) |
| Benzene, 1,4-dichloro- | 100 (45.4) |
| Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro | 1 (0.454) |
| Benzene, dichloromethyl- | 5000 (2270) |
| Benzene, 1,3-diisocyanatomethyl | 100 (45.4) |
| Benzene, dimethyl- | 100 (45.4) |
| Benzene, m-dimethyl- | 1000 (454) |
| Benzene, o-dimethyl- | 1000 (454) |
| Benzene, p-dimethyl- | 100 (45.4) |
| Benzene, hexachloro- | 10 (4.54) |
| Benzene, hexahydro- | 1000 (454) |
| Benzene, hydroxy- | 1000 (454) |
| Benzene, methyl- | 1000 (454) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| Benzene, 1-methyl-2,4-dinitro- | 10 (4.54) |
| Benzene, 2-methyl-1,3-dinitro- | 100 (45.4) |
| Benzene, 1-methylethyl- | 5000 (2270) |
| Benzene, nitro- | 1000 (454) |
| Benzene, pentachloro- | 10 (4.54) |
| Benzene, pentachloronitro- | 100 (45.4) |
| Benzene, 1,2,4,5-tetrachloro- | 5000 (2270) |
| Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- | 1 (0.454) |
| Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy]- | 1 (0.454) |
| Benzene, (trichloromethyl) | 10 (4.54) |
| Benzene, 1,3,5-trinitro- | 10 (4.54) |
| Benzenoacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester | 10 (4.54) |
| Benzenobutanoic acid, 4-[bis(2-chloroethyl)amino]- | 10 (4.54) |
| Benzenediamine, ar-methyl- | 10 (4.54) |
| 1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester | 100 (45.4) |
| 1,2-Benzenedicarboxylic acid, dibutyl ester | 10 (4.54) |
| 1,2-Benzenedicarboxylic acid, diethyl ester | 1000 (454) |
| 1,2-Benzenedicarboxylic acid, dimethyl ester | 5000 (2270) |
| 1,2-Benzenedicarboxylic acid, dioctyl ester | 5000 (2270) |
| 1,3-Benzenediol | 5000 (2270) |
| 1,2-Benzenediol,4-[1-hydroxy-2-(methylamino)ethyl]- | 1000 (454) |
| Benzenoethanamine, alpha,alpha-dimethyl- | 5000 (2270) |
| Benzenesulfonic acid chloride | 100 (45.4) |
| Benzenesulfonyl chloride | 100 (45.4) |
| Benzenethiol | 100 (45.4) |
| Benzidine | 1 (0.454) |
| 1,2-Benzisothiazol-3(2H)-one,1,1-dioxide | 100 (45.4) |
| Benzo[a]anthracene | 10 (4.54) |
| 1,3-Benzodioxole, 5-(2-propenyl)- | 100 (45.4) |
| 1,3-Benzodioxole, 5-(1-propenyl)- | 100 (45.4) |
| 1,3-Benzodioxole, 5-propyl- | 10 (4.54) |
| Benzo[b]fluoranthene | 1 (0.454) |
| Benzo[k]fluoranthene | 5000 (2270) |
| Benzo[j,k]fluorene | 100 (45.4) |
| Benzoic acid | 5000 (2270) |
| Benzonitrile | 5000 (2270) |
| Benzo[g,h,i]perylene | 5000 (2270) |
| 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations greater than 0.3% | 100 (45.4) |
| Benzo[a]pyrene | 1 (0.454) |
| 3,4-Benzopyrene | 1 (0.454) |
| p-Benzoquinone | 10 (4.54) |
| Benzo [rst]pentaphene | 10 (4.54) |
| Benzotrichloride | 10 (4.54) |
| Benzoyl chloride | 1000 (454) |
| 1,2-Benzphenanthrene | 100 (45.4) |
| Benzyl chloride | 100 (45.4) |
| Beryllium ⅉ | 10 (4.54) |
| Beryllium chloride | 1 (0.454) |
| Beryllium dust ⅉ | 10 (4.54) |
| Beryllium fluoride | 1 (0.454) |
| Beryllium nitrate | 1 (0.454) |
| alpha - BHC | 10 (4.54) |
| beta - BHC | 1 (0.454) |
| delta - BHC | 1 (0.454) |
| gamma - BHC | 1 (0.454) |
| 2,2'Bioxirane | 10 (4.54) |
| Biphenyl | 100 (45.4) |
| (1,1'-Biphenyl)-4,4'-diamine | 1 (0.454) |
| (1,1'-Biphenyl)-4,4'-diamine,3,3'-dichloro- | 1 (0.454) |
| (1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethoxy- | 10 (4.54) |
| (1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethyl- | 10 (4.54) |
| Bis(2-chloroethoxy) methane | 1000 (454) |
| Bis(2-chloroethyl) ether | 10 (4.54) |
| Bis(2-ethylhexyl)phthalate | 100 (45.4) |
| Bromoacetone | 1000 (454) |
| Bromoform | 100 (45.4) |
| 4-Bromophenyl phenyl ether | 100 (45.4) |
| Brucine | 100 (45.4) |
| 1,3-Butadiene | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- | 1 (0.454) |
| 1-Butanamine, N-butyl-N-nitroso- | 10 (4.54) |
| 1-Butanol | 5000 (2270) |
| 2-Butanone | 5000 (2270) |
| 2-Butanone, 3,3-dimethyl-1-(methylthio)-,O-[(methylamino)carbonyl] oxime | 100 (45.4) |
| 2-Butanone peroxide | 10 (4.54) |
| 2-Butenal | 100 (45.4) |
| 2-Butene, 1,4-dichloro- | 1 (0.454) |
| 2-Butenoic acid, 2-methyl-,7[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*, 3R*), 7alpha]]- | 10 (4.54) |
| Butyl acetate | 5000 (2270) |
| iso-Butyl acetate ..... | ..... |
| sec-Butyl acetate ..... | ..... |
| tert-Butyl acetate ..... | ..... |
| n-Butyl alcohol | 5000 (2270) |
| Butylamine | 1000 (454) |
| iso-Butylamine ..... | ..... |
| sec-Butylamine ..... | ..... |
| tert-Butylamine ..... | ..... |
| Butyl benzyl phthalate | 100 (45.4) |
| n-Butyl phthalate | 10 (4.54) |
| Butyric acid | 5000 (2270) |
| iso-Butyric acid ..... | ..... |
| Cacodylic acid | 1 (0.454) |
| Cadmium ϵ | 10 (4.54) |
| Cadmium acetate | 10 (4.54) |
| Cadmium bromide | 10 (4.54) |
| Cadmium chloride | 10 (4.54) |
| Calcium arsenate | 1 (0.454) |
| Calcium arsenite | 1 (0.454) |
| Calcium carbide | 10 (4.54) |
| Calcium chromate | 10 (4.54) |
| Calcium cyanamide | 1000 (454) |
| Calcium cyanide | 10 (4.54) |
| Calcium cyanide Ca(CN) ₂ | 10 (4.54) |
| Calcium dodecylbenzene sulfonate | 1000 (454) |
| Calcium hypochlorite | 10 (4.54) |
| Camphene, octachloro- | 1 (0.454) |
| Captan | 10 (4.54) |
| Carbamic acid, ethyl ester | 100 (45.4) |
| Carbamic acid, methylnitroso-, ethyl ester | 1 (0.454) |
| Carbamic chloride, dimethyl- | 1 (0.454) |
| Carbamide, thio- | 10 (4.54) |
| Carbamimidoseleonic acid | 1000 (454) |
| Carbamothioic acid, bis (1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester | 100 (45.4) |
| Carbaryl | 100 (45.4) |
| Carbofuran | 10 (4.54) |
| Carbon bisulfide | 100 (45.4) |
| Carbon disulfide | 100 (45.4) |
| Carbonic acid, dithallium (I+) | 100 (45.4) |
| Carbonic dichloride | 10 (4.54) |
| Carbonic difluoride | 1000 (454) |
| Carbonochloridic acid, methyl ester | 1000 (454) |
| Carbon oxyfluoride | 1000 (454) |
| Carbon tetrachloride | 10 (4.54) |
| Carbonyl sulfide | 100 (45.4) |
| Catechol | 100 (45.4) |
| Chloral | 5000(2270) |
| Chloramben | 100 (45.4) |
| Chlorambucil | 10 (4.54) |
| Chlordane | 1 (0.454) |
| Chlordane, alpha & gamma isomers | 1 (0.454) |
| Chlordane, technical | 1 (0.454) |
| Chlorine | 10 (4.54) |
| Chlornaphazine | 100 (45.4) |
| Chloroacetaldehyde | 1000 (454) |
| Chloroacetic acid | 100 (45.4) |
| 2-Chloroacetophenone | 100 (45.4) |
| p-Chloroaniline | 1000 (454) |
| Chlorobenzene | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| Chlorobenzilate | 10 (4.54) |
| 4-Chloro-m-cresol | 5000 (2270) |
| p-Chloro-m-cresol | 5000 (2270) |
| Chlorodibromomethane | 100 (45.4) |
| Chloroethane | 100 (45.4) |
| 2-Chloroethyl vinyl ether | 1000 (454) |
| Chloroform | 10 (4.54) |
| Chloromethane | 100 (45.4) |
| Chloromethyl methyl ether | 10 (4.54) |
| beta-Chloronaphthalene | 5000 (2270) |
| 2-Chloronaphthalene | 5000 (2270) |
| 2-Chlorophenol | 100 (45.4) |
| o-Chlorophenol | 100 (45.4) |
| 4-Chlorophenyl phenyl ether | 5000 (2270) |
| 1-(o-Chlorophenyl)thiourea | 100 (45.4) |
| Chloroprene | 100 (45.4) |
| 3-Chloropropionitrile | 1000 (454) |
| Chlorosulfonic acid | 1000 (454) |
| 4-Chloro-o-toluidine, hydrochloride | 100 (45.4) |
| Chlorpyrifos | 1 (0.454) |
| Chromic acetate | 1000 (454) |
| Chromic acid | 10 (4.54) |
| Chromic acid H2CrO4, calcium salt | 10 (4.54) |
| Chromic sulfate | 1000 (454) |
| Chromium ⅈ | 5000 (2270) |
| Chromous chloride | 1000 (454) |
| Chrysene | 100 (45.4) |
| Cobaltous bromide | 1000 (454) |
| Cobaltous formate | 1000 (454) |
| Cobaltous sulfamate | 1000 (454) |
| Coke Oven Emissions | 1 (0.454) |
| Copper ⅈ | 5000 (2270) |
| Copper chloride @ | 10 (4.54) |
| Copper cyanide | 10 (4.54) |
| Copper cyanide CuCN | 10 (4.54) |
| Coumaphos | 10 (4.54) |
| Creosote | 1 (0.454) |
| Cresols (isomers and mixture) | 100 (45.4) |
| m-Cresol | 100 (45.4) |
| o-Cresol | 100 (45.4) |
| p-Cresol | 100 (45.4) |
| Cresylic acid (isomers and mixture) | 100 (45.4) |
| m-Cresylic acid | 100 (45.4) |
| o-Cresylic acid | 100 (45.4) |
| p-Cresylic acid | 100 (45.4) |
| Crotonaldehyde | 100 (45.4) |
| Cumene | 5000 (2270) |
| Cupric acetate | 100 (45.4) |
| Cupric acetoarsenite | 1 (0.454) |
| Cupric chloride | 10 (4.54) |
| Cupric nitrate | 100 (45.4) |
| Cupric oxalate | 100 (45.4) |
| Cupric sulfate | 10 (4.54) |
| Cupric sulfate ammoniated | 100 (45.4) |
| Cupric tartrate | 100 (45.4) |
| Cyanides (soluble salts and complexes) not otherwise specified | 10 (4.54) |
| Cyanogen | 100 (45.4) |
| Cyanogen bromide | 1000 (454) |
| Cyanogen bromide (CN)Br | 1000 (454) |
| Cyanogen chloride | 10 (4.54) |
| Cyanogen chloride (CN)Cl | 10 (4.54) |
| 2,5-Cyclohexadiene-1,4-dione | 10 (4.54) |
| Cyclohexane | 1000 (454) |
| Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- | 1 (0.454) |
| Cyclohexanone | 5000 (2270) |
| 2-Cyclohexyl-4,6-dinitrophenol | 100 (45.4) |
| 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- | 10 (4.54) |
| Cyclophosphamide | 10 (4.54) |
| 2,4-D Acid | 100 (45.4) |
| 2,4-D Ester | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| Daunomycin | 10 (4.54) |
| DDD | 1 (0.454) |
| 4,4'-DDD | 1 (0.454) |
| DDE | 1 (0.454) |
| 4,4'-DDE | 1 (0.454) |
| DDT | 1 (0.454) |
| 4,4'-DDT | 1 (0.454) |
| Diallate | 100 (45.4) |
| Diamine | 1 (0.454) |
| Diazinon | 1 (0.454) |
| Diazomethane | 100 (45.4) |
| Dibenz[a,h]anthracene | 1 (0.454) |
| 1,2:5,6-Dibenzanthracene | 1 (0.454) |
| Dibenzo[a,h]anthracene | 1 (0.454) |
| Dibenzofuran | 100 (45.4) |
| Dibenz[a,i]pyrene | 10 (4.54) |
| 1,2-Dibromo-3-chloropropane | 1 (0.454) |
| Dibutyl phthalate | 10 (4.54) |
| Di-n-butyl phthalate | 10 (4.54) |
| Dicamba | 1000 (454) |
| Dichlobenil | 100 (45.4) |
| Dichlone | 1 (0.454) |
| Dichlorobenzene | 100 (45.4) |
| 1,2-Dichlorobenzene | 100 (45.4) |
| 1,3-Dichlorobenzene | 100 (45.4) |
| 1,4-Dichlorobenzene | 100 (45.4) |
| m-Dichlorobenzene | 100 (45.4) |
| o-Dichlorobenzene | 100 (45.4) |
| p-Dichlorobenzene | 100 (45.4) |
| 3,3'-Dichlorobenzidine | 1 (0.454) |
| Dichlorobromomethane | 5000 (2270) |
| 1,4-Dichloro-2-butene | 1 (0.454) |
| Dichlorodifluoromethane | 5000 (2270) |
| 1,1-Dichloroethane | 1000 (454) |
| 1,2-Dichloroethane | 100 (45.4) |
| 1,1-Dichloroethylene | 100 (45.4) |
| 1,2-Dichloroethylene | 1000 (454) |
| Dichloroethyl ether | 10 (4.54) |
| Dichloroisopropyl—ether | 1000 (454) |
| Dichloromethane @ | 1000 (454) |
| Dichloromethoxy ethane | 1000 (454) |
| Dichloromethyl ether | 10 (4.54) |
| 2,4-Dichlorophenol | 100 (45.4) |
| 2,6-Dichlorophenol | 100 (45.4) |
| Dichlorophenylarsine | 1 (0.454) |
| Dichloropropane | 1000 (454) |
| 1,1-Dichloropropane ..... | ..... |
| 1,3-Dichloropropane ..... | ..... |
| 1,2-Dichloropropane | 1000 (454) |
| Dichloropropane - Dichloropropene (mixture) | 100 (45.4) |
| Dichloropropene | 100 (45.4) |
| 2,3-Dichloropropene ..... | ..... |
| 1,3-Dichloropropene | 100 (45.4) |
| 2,2-Dichloropropionic acid | 5000 (2270) |
| Dichlorvos | 10 (4.54) |
| Dicofol | 10 (4.54) |
| Dieldrin | 1 (0.454) |
| 1,2:3,4-Diepoxybutane | 10 (4.54) |
| Diethanolamine | 100 (45.4) |
| Diethylamine | 1000 (454) |
| N,N-diethylaniline | 1000 (454) |
| Diethylarsine | 1 (0.454) |
| 1,4-Diethylenedioxiide | 100 (45.4) |
| Diethylhexyl phthalate | 100 (45.4) |
| N,N'-Diethylhydrazine | 10 (4.54) |
| O,O-Diethyl S-methyl dithiophosphate | 5000 (2270) |
| Diethyl-p-nitrophenyl phosphate | 100 (45.4) |
| Diethyl phthalate | 1000(454) |
| O,O-Diethyl O-pyrazinyl phosphorothioate | 100 (45.4) |
| Diethylstilbestrol | 1 (0.454) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| Diethyl sulfate | 10 (4.54) |
| Dihydrosofrole | 10 (4.54) |
| Diisopropyl fluorophosphate | 100 (45.4) |
| 1,4,5,8-Dimethanonaphthalene | |
| 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro, (1alpha,4alpha,4abeta,5abeta,8beta,8abeta)- | 1 (0.454) |
| 1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- | 1 (0.454) |
| 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- | 1 (0.454) |
| 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- | 1 (0.454) |
| Dimethoate | 10 (4.54) |
| 3,3'-Dimethoxybenzidine | 10 (4.54) |
| Dimethylamine | 1000 (454) |
| p-Dimethylaminoazobenzene | 10 (4.54) |
| N,N-dimethylaniline | 100 (45.4) |
| 7,12-Dimethylbenz[a]anthracene | 1 (0.454) |
| 3,3'-Dimethylbenzidine | 10 (4.54) |
| alpha, alpha-Dimethylbenzylhydroperoxide | 10 (4.54) |
| Dimethylcarbonyl chloride | 1 (0.454) |
| Dimethylformamide | 100 (45.4) |
| 1,1-Dimethylhydrazine | 10 (4.54) |
| 1,2-Dimethylhydrazine | 1 (0.454) |
| Dimethylhydrazine, unsymmetrical @ | 10 (4.54) |
| alpha, alpha-Dimethylphenethylamine | 5000 (2270) |
| 12,4-Dimethylphenol | 100 (45.4) |
| Dimethyl phthalate | 5000 (2270) |
| Dimethyl sulfate | 100 (45.4) |
| Dinitrobenzene (mixed) | 100 (45.4) |
| m-Dinitrobenzene | |
| o-Dinitrobenzene | |
| p-Dinitrobenzene | |
| 4,6-Dinitro-o-cresol and salts | 10 (4.54) |
| Dinitrogen tetroxide @ | 10 (4.54) |
| Dinitrophenol | 10 (4.54) |
| 2,5-Dinitrophenol | |
| 2,4-Dinitrophenol | 10 (4.54) |
| Dinitrotoluene | 10 (4.54) |
| 3,4-Dinitrotoluene | |
| 2,4-Dinitrotoluene | 10 (4.54) |
| 2,6-Dinitrotoluene | 100 (45.4) |
| Dimoseb | 1000 (454) |
| Di-n-octyl phthalate | 5000 (2270) |
| 1,4-Dioxane | 100 (45.4) |
| 1,2-Diphenylhydrazine | 10 (4.54) |
| Diphosphoramidate, octamethyl- | 100 (45.4) |
| Diphosphoric acid, tetraethyl ester | 10 (4.54) |
| Dipropylamine | 5000 (2270) |
| Di-n-propylnitrosamine | 10 (4.54) |
| Diquat | 1000 (454) |
| Disulfoton | 1 (0.454) |
| Dithiobiuret | 100 (45.4) |
| Diuron | 100 (45.4) |
| Dodecylbenzenesulfonic acid | 1000 (454) |
| 2,4-D, salts and esters | 100 (45.4) |
| Endosulfan | 1 (0.454) |
| alpha-Endosulfan | 1 (0.454) |
| beta-Endosulfan | 1 (0.454) |
| Endosulfan sulfate | 1 (0.454) |
| Endothall | 1000 (454) |
| Endrin | 1 (0.454) |
| Endrin, & metabolites | 1 (0.454) |
| Endrin aldehyde | 1 (0.454) |
| Epichlorohydrin | 100 (45.4) |
| Epinephrine | 1000 (454) |
| 1,2-Epoxybutane | 100 (45.4) |
| Ethanal | 1000 (454) |
| Ethanamine, N-ethyl-N-nitroso- | 1 (0.454) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|---|---|
| Ethane, 1,2-dibromo- | 1 (0.454) |
| Ethane, 1,1-dichloro- | 1000 (454) |
| Ethane, 1,2-dichloro- | 100 (45.4) |
| Ethane, hexachloro- | 100 (45.4) |
| Ethane, 1,1'-[methylenebis(oxy)]bis(2-chloro- | 1000 (454) |
| Ethane, 1,1'-oxybis- | 100 (45.4) |
| Ethane, 1,1'-oxybis(2-chloro- | 10 (4.54) |
| Ethane, pentachloro- | 10 (4.54) |
| Ethane, 1,1,1,2-tetrachloro- | 100 (45.4) |
| Ethane, 1,1,2,2-tetrachloro- | 100 (45.4) |
| Ethane, 1,1,2-trichloro- | 100 (45.4) |
| Ethane, 1,1,1-trichloro- | 1000 (454) |
| 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienyl-methyl)- | 5000 (2270) |
| Ethanedinitrile | 100 (45.4) |
| Ethanenitrile | 5000 (2270) |
| Ethanethioamide | 10 (4.54) |
| Ethanimidiothioic acid, N-[[[(methylamino)carbonyl] oxy]-, methyl ester | 100 (45.4) |
| Ethanol, 2-ethoxy- | 1000 (454) |
| Ethanol, 2,2'-(nitrosoimino)bis- | 1 (0.454) |
| Ethanone, 1-phenyl- | 5000 (2270) |
| Ethanoyl chloride | 5000 (2270) |
| Ethene, chloro- | 1 (0.454) |
| Ethene, 2-chloroethoxy- | 1000 (454) |
| Ethene, 1,1-dichloro- | 100 (45.4) |
| Ethene, 1,2-dichloro- (E) | 1000 (454) |
| Ethene, tetrachloro- | 100 (45.4) |
| Ethene, trichloro- | 100 (45.4) |
| Ethion | 10 (4.54) |
| Ethyl acetate | 5000 (2270) |
| Ethyl acrylate | 1000 (454) |
| Ethylbenzene | 1000 (454) |
| Ethyl carbamate (Urethan) | 100 (45.4) |
| Ethyl chloride @ | 100 (45.4) |
| Ethyl cyanide | 10 (4.54) |
| Ethylene dibromide | 1 (0.454) |
| Ethylene dichloride | 100 (45.4) |
| Ethylene glycol | 5000 (2270) |
| Ethylene glycol monoethyl ether | 1000 (454) |
| Ethylene oxide | 10 (4.54) |
| Ethylenebisdithiocarbamic acid | 5000 (2270) |
| Ethylenebisdithiocarbamic acid, salts and esters | 5000 (2270) |
| Ethylenediamine | 5000 (2270) |
| Ethylenediamine tetraacetic acid (EDTA) | 5000 (2270) |
| Ethylenethiourea | 10 (4.54) |
| Ethylenimine | 1 (0.454) |
| Ethyl ether | 100 (45.4) |
| Ethylidene dichloride | 1000 (454) |
| Ethyl methacrylate | 1000 (454) |
| Ethyl methanesulfonate | 1 (0.454) |
| Ethyl methyl ketone @ | 5000 (2270) |
| Famphurdimethylester | 1000 (454) |
| Ferric ammonium citrate | 1000 (454) |
| Ferric ammonium oxalate | 1000 (454) |
| Ferric chloride | 1000 (454) |
| Ferric fluoride | 100 (45.4) |
| Ferric nitrate | 1000 (454) |
| Ferric sulfate | 1000 (454) |
| Ferrous ammonium sulfate | 1000 (454) |
| Ferrous chloride | 100 (45.4) |
| Ferrous sulfate | 1000 (454) |
| Fluoranthene | 100 (45.4) |
| Fluorene | 5000 (2270) |
| Fluorine | 10 (4.54) |
| Fluoroacetamide | 100 (45.4) |
| Fluoroacetic acid, sodium salt | 10 (4.54) |
| Formaldehyde | 100 (45.4) |
| Formic acid | 5000 (2270) |
| Fulminic acid, mercury(2+)/salt | 10 (4.54) |
| Fumaric acid | 5000 (2270) |
| Furan | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| Furan, tetrahydro- | 1000 (454) |
| 2-Furancarboxaldehyde | 5000 (2270) |
| 2,5-Furandione | 5000 (2270) |
| Furfural | 5000 (2270) |
| Furfuran | 100 (45.4) |
| Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)- | 1 (0.454) |
| D-Glucose, 2-deoxy-2-[[methylnitrosoamino]-carbonyl]amino]- | 1 (0.454) |
| Glycidylaldehyde | 10 (4.54) |
| Guanidine, N-methyl-N'-nitro-N-nitroso- | 10 (4.54) |
| Guthion | 1 (0.454) |
| Heptachlor | 1 (0.454) |
| Heptachlor epoxide | 1 (0.454) |
| Hexachlorobenzene | 10 (4.54) |
| Hexachlorobutadiene | 1 (0.454) |
| Hexachlorocyclohexane (gamma isomer) | 1 (0.454) |
| Hexachlorocyclopentadiene | 10 (4.54) |
| Hexachloroethane | 100 (45.4) |
| 1,2,3,4,10-10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,exo-dimethanonaphthalene | 1 (0.454) |
| Hexachlorophene | 100 (45.4) |
| Hexachloropropene | 1000 (454) |
| Hexaethyl tetraphosphate | 100 (45.4) |
| Hexamethylene-1,6-diisocyanate | 100 (45.4) |
| Hexamethylphosphoramide | 1 (0.454) |
| Hexane | 5000 (2270) |
| Hydrazine | 1 (0.454) |
| Hydrazine, 1,2-diethyl- | 10 (4.54) |
| Hydrazine, 1,1-dimethyl- | 10 (4.54) |
| Hydrazine, 1,2-dimethyl- | 1 (0.454) |
| Hydrazine, 1,2-diphenyl- | 10 (4.54) |
| Hydrazine, methyl- | 10 (4.54) |
| Hydrazinecarbothioamide | 100 (45.4) |
| Hydrochloric acid | 5000 (2270) |
| Hydrocyanic acid | 10 (4.54) |
| Hydrofluoric acid | 100 (45.4) |
| Hydrogen chloride | 5000 (2270) |
| Hydrogen cyanide | 10 (4.54) |
| Hydrogen fluoride | 100 (45.4) |
| Hydrogen phosphide | 100 (45.4) |
| Hydrogen sulfide | 100 (45.4) |
| Hydrogen sulfide H2S | 100 (45.4) |
| Hydroperoxide, 1-methyl-1-phenylethyl- | 10 (4.54) |
| Hydroquinone | 100 (45.4) |
| 2-Imidazolidinethione | 10 (4.54) |
| Indeno(1,2,3-cd)pyrene | 100 (45.4) |
| 1,3-Isobenzofurandione | 5000 (2270) |
| Isobutyl alcohol | 5000 (2270) |
| Isodrin | 1 (0.454) |
| Isophorone | 5000 (2270) |
| Isoprene | 100 (45.4) |
| Isopropanolamine dodecylbenzene sulfonate | 1000 (454) |
| Isosafrole | 100 (45.4) |
| 3(2H)-Isoxazolone, 5-(aminomethyl)- | 1000 (454) |
| Keponedecachloroc-tahydro- | 1 (0.454) |
| Lasiocarpine | 10 (4.54) |
| Lead | 10 (4.54) |
| Lead acetate | 10 (4.54) |
| Lead arsenate | 1 (0.454) |
| Lead, bis(acetato-O)tetrahydroxytri | 10 (4.54) |
| Lead chloride | 10 (4.54) |
| Lead fluoborate | 10 (4.54) |
| Lead fluoride | 10 (4.54) |
| Lead iodide | 10 (4.54) |
| Lead nitrate | 10 (4.54) |
| Lead phosphate | 10 (4.54) |
| Lead stearate | 10 (4.54) |
| Lead subacetate | 10 (4.54) |
| Lead sulfate | 10 (4.54) |
| Lead sulfide | 10 (4.54) |
| Lead thiocyanate | 10 (4.54) |
| Lindane | 1 (0.454) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|---|---|
| Lithium chromate | 10 (4.54) |
| Malathion | 100 (45.4) |
| Maleic acid | 5000 (2270) |
| Maleic anhydride | 5000 (2270) |
| Maleic hydrazide | 5000 (2270) |
| Malononitrile | 1000 (454) |
| MDI | 5000 (2270) |
| Melphalan | 1 (0.454) |
| Mercaptodimethur | 10 (4.54) |
| Mercuric cyanide | 1 (0.454) |
| Mercuric nitrate | 10 (4.54) |
| Mercuric sulfate | 10 (4.54) |
| Mercuric thiocyanate | 10 (4.54) |
| Mercurous nitrate | 10 (4.54) |
| Mercury | 1 (0.454) |
| Mercury, (acetato-O)phenyl- | 100 (45.4) |
| Mercury fulminate | 10 (4.54) |
| Methacrylonitrile | 1000 (454) |
| Methanamine, N-methyl- | 1000 (454) |
| Methanamine, N-methyl-N-nitroso | 10 (4.54) |
| Methane, bromo- | 1000 (454) |
| Methane, chloro- | 100 (45.4) |
| Methane, chloromethoxy- | 10 (4.54) |
| Methane, dibromo- | 1000 (454) |
| Methane, dichloro- | 1000 (454) |
| Methane, dichlorodifluoro- | 5000 (2270) |
| Methane, iodo- | 100 (45.4) |
| Methane, isocyanato- | 10 (4.54) |
| Methane, oxybis(chloro- | 10 (4.54) |
| Methane, tetrachloro- | 10 (4.54) |
| Methane, tetranitro- | 10 (4.54) |
| Methane, tribromo- | 100 (45.4) |
| Methane, trichloro- | 10 (4.54) |
| Methane, trichlorofluoro- | 5000 (2270) |
| Methanesulfonyl chloride, trichloro- | 100 (45.4) |
| Methanesulfonic acid, ethyl ester | 1 (0.454) |
| Methanethiol | 100 (45.4) |
| 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide | 1 (0.454) |
| Methanoic acid | 5000 (2270) |
| 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-a,4,7,7a-tetrahydro- | 1 (0.454) |
| 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- | 1 (0.454) |
| Methanol | 5000 (2270) |
| Methapyrilene | 5000 (2270) |
| 1,3,4-Metheno-2H-cyclobutal[cd]-pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro- | 1 (0.454) |
| Methylol | 100 (45.4) |
| Methoxychlor | 1 (0.454) |
| Methyl alcohol | 5000 (2270) |
| Methylamine @ | 100 (45.4) |
| Methyl bromide | 1000 (454) |
| 1-Methylbutadiene | 100 (45.4) |
| Methyl chloride | 100 (45.4) |
| Methyl chlorocarbonate | 1000 (454) |
| Methyl chloroform | 1000 (454) |
| Methyl chloroformate | 1000 (454) |
| Methylchloromethyl ether @ | 1 (0.454) |
| 3-Methylcholanthrene | 10 (4.54) |
| 4,4'-Methylenebis(2-chloroaniline) | 10 (4.54) |
| Methylene bromide | 1000 (454) |
| Methylene chloride | 1000 (454) |
| 4,4'-Methylenedianiline | 10 (4.54) |
| Methylene diphenyl diisocyanate | 5000 (2270) |
| Methylene oxide | 100 (45.4) |
| Methyl ethyl ketone (MEK) | 5000 (2270) |
| Methyl ethyl ketone peroxide | 10 (4.54) |
| Methyl hydrazine | 10 (4.54) |
| Methyl iodide | 100 (45.4) |
| Methyl isobutyl ketone | 5000 (2270) |
| Methyl isocyanate | 10 (4.54) |
| 2-Methylacetonitrile | 10 (4.54) |
| Methyl mercaptan | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| Methyl methacrylate | 1000 (454) |
| Methyl parathion | 100 (45.4) |
| 4-Methyl-2-pentanone | 5000 (2270) |
| Methyl tert-butyl ether | 1000 (454) |
| Methylthiouracil | 10 (4.54) |
| Mevinphos | 10 (4.54) |
| Mexacarbate | 1000 (454) |
| Mitomycin C | 10 (4.54) |
| MNNG | 10 (4.54) |
| Monoethylamine | 100 (45.4) |
| Monomethylamine | 100 (45.4) |
| Muscimol | 1000 (454) |
| Naled | 10 (4.54) |
| 5,12-Naphthacenedione, 8-acetyl-10-[3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- | 10 (4.54) |
| Naphthalenamine, N,N-bis(2-chloroethyl)- | 100 (45.4) |
| Naphthalene | 100 (45.4) |
| Naphthalene, 2-chloro- | 5000 (2270) |
| 1,4-Naphthalenedione | 5000 (2270) |
| 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt | 10 (4.54) |
| Naphthenic acid | 100 (45.4) |
| 1,4-Naphthoquinone | 5000 (2270) |
| alpha-Naphthylamine | 100 (45.4) |
| beta-Naphthylamine | 1 (0.454) |
| 1-Naphthylamine | 100 (45.4) |
| 2-Naphthylamine | 1 (0.454) |
| alpha-Naphthylthiourea | 100 (45.4) |
| Nickel c | 100 (45.4) |
| Nickel ammonium sulfate | 100 (45.4) |
| Nickel carbonyl | 10 (4.54) |
| Nickel carbonyl Ni(CO)4,(T-4)- | 10 (4.54) |
| Nickel chloride | 100 (45.4) |
| Nickel cyanide | 10 (4.54) |
| Nickel cyanide Ni(CN)2 | 10 (4.54) |
| Nickel hydroxide | 10 (4.54) |
| Nickel nitrate | 100 (45.4) |
| Nickel sulfate | 100 (45.4) |
| Nicotine and salts | 100 (45.4) |
| Nitric acid | 1000 (454) |
| Nitric acid, thallium(1+) salt | 100 (45.4) |
| Nitric oxide | 10 (4.54) |
| p-Nitroaniline | 5000 (2270) |
| Nitrobenzene | 1000 (454) |
| 4-nitrobiphenyl | 10 (4.54) |
| Nitrogen dioxide | 10 (4.54) |
| Nitrogen oxide NO | 10 (4.54) |
| Nitrogen oxide NO2 | 10 (4.54) |
| Nitroglycerine | 10 (4.54) |
| Nitrophenol (mixed) | 100 (45.4) |
| m- | |
| o- | |
| p- | |
| o-Nitrophenol | 100 (45.4) |
| p-Nitrophenol | 100 (45.4) |
| 2-Nitrophenol | 100 (45.4) |
| 4-Nitrophenol | 100 (45.4) |
| 2-Nitropropane | 10 (4.54) |
| N-Nitrosodi-n-butylamine | 10 (4.54) |
| N-Nitrosodiethanolamine | 1 (0.454) |
| N-Nitrosodiethylamine | 1 (0.454) |
| N-Nitrosodimethylamine | 10 (4.54) |
| N-Nitrosodiphenylamine | 100 (45.4) |
| N-Nitroso-N-ethylurea | 1 (0.454) |
| N-Nitroso-N-methylurea | 1 (0.454) |
| N-Nitroso-N-methylurethane | 1 (0.454) |
| N-Nitrosomethylvinylamine | 10 (4.54) |
| n-Nitrosomorpholine | 1 (0.454) |
| N-Nitrosopiperidine | 10 (4.54) |
| N-Nitrosopyrrolidine | 1 (0.454) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|---|---|
| Nitrotoluene | 1000 (454) |
| m-Nitrotoluene ..... | ..... |
| o-Nitrotoluene ..... | ..... |
| p-Nitrotoluene ..... | ..... |
| 5-Nitro-o-toluidine | 100 (45.4) |
| Octamethylpyrophosphoramide | 100 (45.4) |
| Osmium oxide OsO ₄ (T-4) | 1000 (454) |
| Osmium tetroxide | 1000 (454) |
| 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid | 1000 (454) |
| 1,2-Oxathiolane, 2,2-dioxide | 10 (4.54) |
| 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide | 10 (4.54) |
| Oxirane | 10 (4.54) |
| Oxiranecarboxyaldehyde | 10 (4.54) |
| Oxirane, (chloromethyl)- | 100 (45.4) |
| Paraformaldehyde | 1000 (454) |
| Paraldehyde | 1000 (454) |
| Parathion | 10 (4.54) |
| Pentachlorobenzene | 10 (4.54) |
| Pentachloroethane | 10 (4.54) |
| Pentachloronitrobenzene (PCNB) | 100 (45.4) |
| Pentachlorophenol | 10 (4.54) |
| 1,3-Pentadiene | 100 (45.4) |
| Perchloroethylene | 100 (45.4) |
| Perchloromethyl mercaptan @ | 100 (45.4) |
| Phenacetin | 100 (45.4) |
| Phenanthrene | 5000 (2270) |
| Phenol | 1000 (454) |
| Phenol, 2-chloro- | 100 (45.4) |
| Phenol, 4-chloro-3-methyl- | 5000 (2270) |
| Phenol, 2-cyclohexyl-4,6-dinitro- | 100 (45.4) |
| Phenol, 2,4-dichloro- | 100 (45.4) |
| Phenol, 2,6-dichloro- | 100 (45.4) |
| Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E) | 1 (0.454) |
| Phenol, 2,4-dimethyl- | 100 (45.4) |
| Phenol, 2,4-dinitro- | 10 (4.54) |
| Phenol, methyl- | 100 (45.4) |
| Phenol, 2-methyl-4,6-dinitro- | 10 (4.54) |
| Phenol, 2,2'-methylenebis[3,4,6-trichloro- | 100 (45.4) |
| Phenol, 2-(1-methylpropyl)-4,6-dinitro | 1000 (454) |
| Phenol, 4-nitro- | 100 (45.4) |
| Phenol, pentachloro- | 10 (4.54) |
| Phenol, 2,3,4,6-tetrachloro- | 10 (4.54) |
| Phenol, 2,4,5-trichloro- | 10 (4.54) |
| Phenol, 2,4,6-trichloro- | 10 (4.54) |
| Phenol, 2,4,6-trinitro-, ammonium salt | 10 (4.54) |
| L-Phenylalanine, 4-[bis(2-chloroethyl)amino] | 1 (0.454) |
| p-Phenylenediamine | 5000 (2270) |
| 1,10-(1,2-Phenylene)pyrene | 100 (45.4) |
| Phenyl mercaptan @ | 100 (45.4) |
| Phenylmercuric acetate | 100 (45.4) |
| Phenylthiourea | 100 (45.4) |
| Phorate | 10 (4.54) |
| Phosgene | 10 (4.54) |
| Phosphine | 100 (45.4) |
| Phosphoric acid | 5000 (2270) |
| Phosphoric acid, diethyl 4-nitrophenyl ester | 100 (45.4) |
| Phosphoric acid, lead(2+) salt (2:3) | 10 (4.54) |
| Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester | 1 (0.454) |
| Phosphorodithioic acid, O,O-diethyl S-(ethylthio), methyl ester | 10 (4.54) |
| Phosphorodithioic acid, O,O-diethyl S-methyl ester | 5000 (2270) |
| Phosphorodithioic acid, O,O-dimethyl S-[2 (methylamino)-2-oxoethyl] ester | 10 (4.54) |
| Phosphorofluoric acid, bis(1-methylethyl) ester | 100 (45.4) |
| Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester | 10 (4.54) |
| Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester | 100 (45.4) |
| Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester | 100 (45.4) |
| Phosphorothioic acid, O,[4-[(dimethylamino)sulfonyl] phenyl] O,O-dimethyl ester | 1000 (454) |
| Phosphorus | 1 (0.454) |
| Phosphorus oxychloride | 1000 (454) |
| Phosphorus pentasulfide | 100 (45.4) |
| Phosphorus sulfide | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| Phosphorus trichloride | 1000 (454) |
| Phthalic anhydride | 5000 (2270) |
| 2-Picoline | 5000 (2270) |
| Piperidine, 1-nitroso- | 10 (4.54) |
| Plumbane, tetraethyl- | 10 (4.54) |
| POLYCHLORINATED BIPHENYLS (PCBs) | 1 (0.454) |
| Potassium arsenate | 1 (0.454) |
| Potassium arsenite | 1 (0.454) |
| Potassium bichromate | 10 (4.54) |
| Potassium chromate | 10 (4.54) |
| Potassium cyanide | 10 (4.54) |
| Potassium cyanide K(CN) | 10 (4.54) |
| Potassium hydroxide | 1000 (454) |
| Potassium permanganate | 100 (45.4) |
| Potassium silver cyanide | 1 (0.454) |
| Pronamide | 5000 (2270) |
| Propanal, 2-methyl-2-(methylthio)-O-[(methylamino)carbonyl]oxime | 1 (0.454) |
| 1-Propanamine | 5000 (2270) |
| 1-Propanamine, N-nitroso-N-propyl- | 10 (4.54) |
| 1-Propanamine, N-propyl- | 5000 (2270) |
| Propane, 1,2-dibromo-3-chloro- | 1 (0.454) |
| Propane, 1,2-dichloro- | 1000 (454) |
| Propane, 2-nitro- | 10 (4.54) |
| Propane, 2,2'-oxybis [2-chloro- | 1000 (454) |
| 1,3-Propane sulfone | 10 (4.54) |
| Propanedinitrile | 1000 (454) |
| Propanenitrile | 10 (4.54) |
| Propanenitrile, 3-chloro- | 1000 (454) |
| Propanenitrile, 2-hydroxy-2-methyl- | 10 (4.54) |
| 1,2,3-Propanetriol, trinitrate- | 10 (4.54) |
| 1-Propanol, 2,3-dibromo-, phosphate (3:1) | 10 (4.54) |
| 1-Propanol, 2-methyl- | 5000 (2270) |
| 2-Propanone | 5000 (2270) |
| 2-Propanone, 1-bromo- | 1000 (454) |
| Propargite | 10 (4.54) |
| Propargyl alcohol | 1000 (454) |
| 2-Propenal | 1 (0.454) |
| 2-Propenamide | 5000 (2270) |
| 1-Propene, 1,3-dichloro- | 100 (45.4) |
| 1-Propene, 1,1,2,3,3,3-hexachloro- | 1000 (454) |
| 2-Propenenitrile | 100 (45.4) |
| 2-Propenenitrile, 2-methyl- | 1000 (454) |
| 2-Propenoic acid | 5000 (2270) |
| 2-Propenoic acid, ethyl ester | 1000 (454) |
| 2-Propenoic acid, 2-methyl-, ethyl ester | 1000 (454) |
| 2-Propenoic acid, 2-methyl-, methyl ester | 1000 (454) |
| 2-Propen-1-ol | 100 (45.4) |
| beta-Propioaldehyde | 1000 (454) |
| Propionic acid | 5000 (2270) |
| Propionic acid, 2-(2,4,5-trichlorophenoxy)- | 100 (45.4) |
| Propionic anhydride | 5000 (2270) |
| Propoxur (baygon) | 100 (45.4) |
| n-Propylamine | 5000 (2270) |
| Propylene dichloride | 1000 (454) |
| Propylene oxide | 100 (45.4) |
| 1,2-Propylenimine | 1 (0.454) |
| 2-Propyn-1-ol | 1000 (454) |
| Pyrene | 5000 (2270) |
| Pyrethrins | 1 (0.454) |
| 3,6-Pyridazinedione, 1,2-dihydro- | 5000 (2270) |
| 4-Pyridinamine | 1000 (454) |
| Pyridine | 1000 (454) |
| Pyridine, 2-methyl- | 5000 (2270) |
| Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S) | 100 (45.4) |
| 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- | 10 (4.54) |
| 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- | 10 (4.54) |
| Pyrrolidine, 1-nitroso- | 1 (0.454) |
| Quinoline | 5000 (2270) |
| RADIONUCLIDES | See table 2 |
| Reserpine | 5000 (2270) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|--|---|
| Resorcinol | 5000 (2270) |
| Saccharin and salts | 100 (45.4) |
| Safrole | 100 (45.4) |
| Selenious acid | 10 (4.54) |
| Selenious acid, dithallium(1+) salt | 1000 (454) |
| Selenium ç | 100 (45.4) |
| Selenium dioxide | 10 (4.54) |
| Selenium oxide | 10 (4.54) |
| Selenium sulfide | 10 (4.54) |
| Selenium sulfide SeS2 | 10 (4.54) |
| Selenourea | 1000 (454) |
| L-Serine, diazoacetate (ester) | 1 (0.454) |
| Silver ç | 1000 (454) |
| Silver cyanide | 1 (0.454) |
| Silver cyanide Ag(CN) | 1 (0.454) |
| Silver nitrate | 1 (0.454) |
| Silvex(2,4,5-TP) | 100 (45.4) |
| Sodium | 10 (4.54) |
| Sodium arsenate | 1 (0.454) |
| Sodium arsenite | 1 (0.454) |
| Sodium azide | 1000 (454) |
| Sodium bichromate | 10 (4.54) |
| Sodium bifluoride | 100 (45.4) |
| Sodium bisulfite | 5000 (2270) |
| Sodium chromate | 10 (4.54) |
| Sodium cyanide | 10 (4.54) |
| Sodium cyanide Na(CN) | 10 (4.54) |
| Sodium dodecylbenzene sulfonate | 1000 (454) |
| Sodium fluoride | 1000 (454) |
| Sodium hydrosulfide | 5000 (2270) |
| Sodium hydroxide | 1000 (454) |
| Sodium hypochlorite | 100 (45.4) |
| Sodium methylate | 1000 (454) |
| Sodium nitrite | 100 (45.4) |
| Sodium phosphate, dibasic | 5000 (2270) |
| Sodium phosphate, tribasic | 5000 (2270) |
| Sodium selenite | 100 (45.4) |
| Streptozotocin | 1 (0.454) |
| Strontium chromate | 10 (4.54) |
| Strychnidin-10-one | 10 (4.54) |
| Strychnidin-10-one, 2,3-dimethoxy- | 100 (45.4) |
| Strychnine and salts | 10 (4.54) |
| Styrene | 1000 (454) |
| Styrene oxide | 100 (45.4) |
| Sulfur chloride @ | 1000 (454) |
| Sulfur monochloride | 1000 (454) |
| Sulfur phosphide | 100 (45.4) |
| Sulfuric acid | 1000 (454) |
| Sulfuric acid, dimethyl ester | 100 (45.4) |
| Sulfuric acid, dithallium(1+) salt | 100 (45.4) |
| 2,4,5-T | 1000 (454) |
| 2,4,5-T acid | 1000 (454) |
| 2,4,5-T amines | 5000 (2270) |
| 2,4,5-T esters | 1000 (454) |
| 2,4,5-T salts | 1000 (454) |
| TDE | 1 (0.454) |
| 1,2,4,5-Tetrachlorobenzene | 5000 (2270) |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 (0.454) |
| 1,1,1,2-Tetrachloroethane | 100 (45.4) |
| 1,1,2,2-Tetrachloroethane | 100 (45.4) |
| Tetrachloroethane @ | 100 (45.4) |
| Tetrachloroethene | 100 (45.4) |
| Tetrachloroethylene | 100 (45.4) |
| 2,3,4,6-Tetrachlorophenol | 10 (4.54) |
| Tetraethyl lead | 10 (4.54) |
| Tetraethyl pyrophosphate | 10 (4.54) |
| Tetraethylthiopyrophosphate | 100 (45.4) |
| Tetrahydrofuran | 1000 (454) |
| Tetranitromethane | 10 (4.54) |
| Tetraphosphoric acid, hexaethyl ester | 100 (45.4) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|--|---|
| Thallic oxide | 100 (45.4) |
| Thallium ϕ | 1000 (454) |
| Thallium(I) acetate | 100 (45.4) |
| Thallium(I) carbonate | 100 (45.4) |
| Thallium(I) chloride | 100 (45.4) |
| Thallium chloride TICl | 100 (45.4) |
| Thallium(I) nitrate | 100 (45.4) |
| Thallium oxide T1203 | 100 (45.4) |
| Thallium selenite | 1000 (454) |
| Thallium(I) sulfate | 100 (45.4) |
| Thioacetamide | 10 (4.54) |
| Thiodiphosphoric acid, tetraethyl ester | 100 (45.4) |
| Thiofanox | 100 (45.4) |
| Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH | 100 (45.4) |
| Thiomethanol | 100 (45.4) |
| Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ tetramethyl- | 10 (4.54) |
| Thiophenol | 100 (45.4) |
| Thiosemicarbazide | 100 (45.4) |
| Thiourea | 10 (4.54) |
| Thiourea, (2-chlorophenyl)- | 100 (45.4) |
| Thiourea, 1-naphthalenyl- | 100 (45.4) |
| Thiourea, phenyl- | 100 (45.4) |
| Thiram | 10 (4.54) |
| Titanium tetrachloride | 1000 (454) |
| Toluene | 1000 (454) |
| Toluenediamine | 10 (4.54) |
| Toluene diisocyanate | 100 (45.4) |
| o-Toluidine | 100 (45.4) |
| p-Toluidine | 100 (45.4) |
| o-Toluidine hydrochloride | 100 (45.4) |
| Toxaphene | 1 (0.454) |
| 2,4,5-TP acid | 100 (45.4) |
| 2,4,5-TP acid esters | 100 (45.4) |
| 1H-1,2,4-Triazol-3-amine | 10 (4.54) |
| Trichlorfon | 100 (45.4) |
| 1,2,4-Trichlorobenzene | 100 (45.4) |
| 1,1,1-Trichloroethane | 1000 (454) |
| 1,1,2-Trichloroethane | 100 (45.4) |
| Trichloroethene | 100 (45.4) |
| Trichloroethylene | 100 (45.4) |
| Trichloromethanesulfonyl chloride | 100 (45.4) |
| Trichloromonofluoromethane | 5000 (2270) |
| Trichlorophenol | 10 (4.54) |
| 2,3,4-Trichlorophenol | ..... |
| 2,3,5-Trichlorophenol | ..... |
| 2,3,6-Trichlorophenol | ..... |
| 2,4,5-Trichlorophenol | ..... |
| 2,4,6-Trichlorophenol | ..... |
| 3,4,5-Trichlorophenol | ..... |
| 2,4,5-Trichlorophenol | 10 (4.54) |
| 2,4,6-Trichlorophenol | 10 (4.54) |
| Triethanolamine dodecylbenzene sulfonate | 1000 (454) |
| Triethylamine | 5000 (2270) |
| Trifluralin | 10 (4.54) |
| Trimethylamine | 100 (45.4) |
| 2,2,4-Trimethylpentane | 1000 (454) |
| 1,3,5-Trinitrobenzene | 10 (4.54) |
| 1,3,5-Trioxane, 2,4,6-trimethyl- | 1000 (454) |
| Tris(2,3-dibromopropyl) phosphate | 10 (4.54) |
| Trypan blue | 10 (4.54) |
| Uracil mustard | 10 (4.54) |
| Uranyl acetate | 100 (45.4) |
| Uranyl nitrate | 100 (45.4) |
| Urea, N-ethyl-N-nitroso- | 1 (0.454) |
| Urea, N-methyl-N-nitroso- | 1 (0.454) |
| Vanadic acid, ammonium salt | 1000 (454) |
| Vanadium oxide V ₂ O ₅ | 1000 (454) |
| Vanadium pentoxide | 1000 (454) |
| Vanadyl sulfate | 1000 (454) |
| Vinyl acetate | 5000 (2270) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| Vinyl acetate monomer | 5000 (2270) |
| Vinylamine, N-methyl-N-nitroso- | 10 (4.54) |
| Vinyl bromide | 100 (45.4) |
| Vinyl chloride | 1 (0.454) |
| Vinylidene chloride | 100 (45.4) |
| Warfarin, & salts, when present at concentrations greater than 0.3% | 100 (45.4) |
| Xylene | 100 (45.4) |
| m-Xylene | 1000 (454) |
| o-Xylene | 1000 (454) |
| p-Xylene | 100 (45.4) |
| Xylene (mixed) | 100 (45.4) |
| Xylenes (isomers and mixture) | 100 (45.4) |
| Xylenol | 1000 (454) |
| Yohimban-16-carboxylic acid,11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester (3beta,16beta,17alpha,18beta,20alpha)- | 5000 (2270) |
| Zinc ¢ | 1000 (454) |
| Zinc acetate | 1000 (454) |
| Zinc ammonium chloride | 1000 (454) |
| Zinc borate | 1000 (454) |
| Zinc bromide | 1000 (454) |
| Zinc carbonate | 1000 (454) |
| Zinc chloride | 1000 (454) |
| Zinc cyanide | 10 (4.54) |
| Zinc cyanide Zn(CN) ₂ | 10 (4.54) |
| Zinc fluoride | 1000 (454) |
| Zinc formate | 1000 (454) |
| Zinc hydrosulfite | 1000 (454) |
| Zinc nitrate | 1000 (454) |
| Zinc phenolsulfonate | 5000 (2270) |
| Zinc phosphide | 100 (45.4) |
| Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% | 100 (45.4) |
| Zinc silicofluoride | 5000 (2270) |
| Zinc sulfate | 1000 (454) |
| Zirconium nitrate | 5000 (2270) |
| Zirconium potassium fluoride | 1000 (454) |
| Zirconium sulfate | 5000 (2270) |
| Zirconium tetrachloride | 5000 (2270) |
| D001 Unlisted Hazardous Wastes Characteristic of Ignitability | 100 (45.4) |
| D002 Unlisted Hazardous Wastes Characteristic of Corrosivity | 100 (45.4) |
| D003 Unlisted Hazardous Wastes Characteristic of Reactivity | 100 (45.4) |
| D004-D043 Unlisted Hazardous Wastes Characteristic of Toxicity ..... | ..... |
| D004 Arsenic | 1 (0.454) |
| D005 Barium | 1000 (454) |
| D006 Cadmium | 10 (4.54) |
| D007 Chromium | 10 (4.54) |
| D008 Lead | 10 (4.54) |
| D009 Mercury | 1 (0.454) |
| D010 Selenium | 10 (4.54) |
| D011 Silver | 1 (0.454) |
| D012 Endrin | 1 (0.454) |
| D013 Lindane | 1 (0.454) |
| D014 Methoxychlor | 1 (0.454) |
| D015 Toxaphene | 1 (0.454) |
| D016 2,4-D | 100 (45.4) |
| D017 2,4,5-TP | 100 (45.4) |
| D018 Benzene | 10 (4.54) |
| D019 Carbon tetrachloride | 10 (4.54) |
| D020 Chlordane | 1 (0.454) |
| D021 Chlorobenzene | 100 (45.4) |
| D022 Chloroform | 10 (4.54) |
| D023 o-Cresol | 100 (45.4) |
| D024 m-Cresol | 100 (45.4) |
| D025 p-Cresol | 100 (45.4) |
| D026 Cresol | 100 (45.4) |
| D027 1,4-Dichlorobenzene | 100 (45.4) |
| D028 1,2-Dichloroethane | 100 (45.4) |
| D029 1,1-Dichloroethylene | 100 (45.4) |
| D030 2,4-Dinitrotoluene | 10 (4.54) |
| D031 Heptachlor (and hydroxide) | 1 (0.454) |
| D032 Hexachlorobenzene | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilo-grams) |
|--|---|
| D033 Hexachlorobutadiene | 1 (0.454) |
| D034 Hexachloroethane | 100 (45.4) |
| D035 Methyl ethyl ketone | 5000 (2270) |
| D036 Nitrobenzene | 1000 (454) |
| D037 Pentachlorophenol | 10 (4.54) |
| D038 Pyridine | 1000 (454) |
| D039 Tetrachloroethylene | 100 (45.4) |
| D040 Trichloroethylene | 100 (45.4) |
| D041 2,4,5-Trichlorophenol | 10 (4.54) |
| D042 2,4,6-Trichlorophenol | 10 (4.54) |
| D043 Vinyl chloride | 1 (0.454) |
| F001 | |
| The following spent halogenated solvents used in degreasing; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the below listed halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | 10 (4.54) |
| (a) Tetrachloroethylene | 100 (45.4) |
| (b) Trichloroethylene | 100 (45.4) |
| (c) Methylene chloride | 1000 (454) |
| (d) 1,1,1-Trichloroethane | 1000 (454) |
| (e) Carbon tetrachloride | 10 (4.54) |
| (f) Chlorinated fluorocarbons | 5000 (2270) |
| F002 | |
| The following spent halogenated solvents; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the below listed halogenated solvents or those listed in F001, F004, F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. | 10 (4.54) |
| (a) Tetrachloroethylene | 100 (45.4) |
| (b) Methylene chloride | 1000 (454) |
| (c) Trichloroethylene | 100 (45.4) |
| (d) 1,1,1-Trichloroethane | 1000 (454) |
| (e) Chlorobenzene | 100 (45.4) |
| (f) 1,1,2-Trichloro-1,2,2-trifluoroethane | 5000 (2270) |
| (g) o-Dichlorobenzene | 100 (45.4) |
| (h) Trichlorofluoromethane | 5000 (2270) |
| (i) 1,1,2 Trichloroethane | 100 (45.4) |
| F003 | |
| The following spent non-halogenated solvents and solvents: | 100 (45.4) |
| (a) Xylene | 1000 (454) |
| (b) Acetone | 5000 (2270) |
| (c) Ethyl acetate | 5000 (2270) |
| (d) Ethylbenzene | 1000 (454) |
| (e) Ethyl ether | 100 (45.4) |
| (f) Methyl isobutyl ketone | 5000 (2270) |
| (g) n-Butyl alcohol | 5000 (2270) |
| (h) Cyclohexanone | 5000 (2270) |
| (i) Methanol | 5000 (2270) |
| F004 | 100 (45.4) |
| The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents: | |
| (a) Cresols/Cresylic acid | 1000 (454) |
| (b) Nitrobenzene | 100 (45.4) |
| F005 | |
| The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents: | 100 (45.4) |
| (a) Toluene | 1000 (454) |
| (b) Methyl ethyl ketone | 5000 (2270) |
| (c) Carbon disulfide | 100 (45.4) |
| (d) Isobutanol | 5000 (2270) |
| (e) Pyridine | 1000 (454) |
| F006 | |
| Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum, (2) tin plating on carbon steel, (3) zinc plating (segregated basis) on carbon steel, (4) aluminum or zinc-aluminum plating on carbon steel, (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel, and (6) chemical etching and milling of aluminum | 10 (4.54) |
| F007 | |
| Spent cyanide plating bath solutions from electroplating operations | 10 (4.54) |
| F008 | |
| Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process | 10 (4.54) |
| F009 | |
| Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| F010 Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process | 10 (4.54) |
| F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning) | 10 (4.54) |
| F012 Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process | 10 (4.54) |
| F019 Wastewater treatment sludges from the chemical conversion coating of aluminum—except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process | 10 (4.54) |
| F020 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.) | 1 (0.454) |
| F021 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. | 1 (0.454) |
| F022 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. | 1 (0.454) |
| F023 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.) | 1 (0.454) |
| F024 Wastes, including but not limited to distillation residues, heavy ends, tars, and reactor cleanout wastes, from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent filters and filter aids, spent desiccants(sic), wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in 40 CFR 261.32.) | 1 (0.454) |
| F025 Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution | 1 (0.454) |
| F026 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions. | 1 (0.454) |
| F027 Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.) | 1 (0.454) |
| F028 Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027. | 1 (0.454) |
| F032 | 1 (0.454) |
| F034 | 1 (0.454) |
| F035 | 1 (0.454) |
| F037 | 1 (0.454) |
| F038 | 1 (0.454) |
| F039 | 1 (0.454) |
| Multi source leachate | 1 (0.454) |
| K001 Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol | 1 (0.454) |
| K002 | 10 (4.54) |
| K003 Wastewater treatment sludge from the production of chrome yellow and orange pigments | 10 (4.54) |
| K004 Wastewater treatment sludge from the production of molybdate orange pigments | 10 (4.54) |
| Wastewater treatment sludge from the production of zinc yellow pigments | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| K005 Wastewater treatment sludge from the production of chrome green pigments | 10 (4.54) |
| K006 Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated) | 10 (4.54) |
| K007 Wastewater treatment sludge from the production of iron blue pigments | 10 (4.54) |
| K008 Oven residue from the production of chrome oxide green pigments | 10 (4.54) |
| K009 Distillation bottoms from the production of acetaldehyde from ethylene | 10 (4.54) |
| K010 Distillation side cuts from the production of acetaldehyde from ethylene | 10 (4.54) |
| K011 Bottom stream from the wastewater stripper in the production of acrylonitrile | 10 (4.54) |
| K013 Bottom stream from the acetonitrile column in the production of acrylonitrile | 10 (4.54) |
| K014 Bottoms from the acetonitrile purification column in the production of acrylonitrile | 5000 (2270) |
| K015 Still bottoms from the distillation of benzyl chloride | 10 (4.54) |
| K016 Heavy ends or distillation residues from the production of carbon tetrachloride | 1 (0.454) |
| K017 Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin | 10 (4.54) |
| K018 Heavy ends from the fractionation column in ethyl chloride production | 1 (0.454) |
| K019 Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production | 1 (0.454) |
| K020 Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production | 1 (0.454) |
| K021 Aqueous spent antimony catalyst waste from fluoromethanes production | 10 (4.54) |
| K022 Distillation bottom tars from the production of phenol/acetone from cumene | 1 (0.454) |
| K023 Distillation light ends from the production of phthalic anhydride from naphthalene | 5000 (2270) |
| K024 Distillation bottoms from the production of phthalic anhydride from naphthalene | 5000 (2270) |
| K025 Distillation bottoms from the production of nitrobenzene by the nitration of benzene | 10 (4.54) |
| K026 Stripping still tails from the production of methyl ethyl pyridines | 1000 (454) |
| K027 Centrifuge and distillation residues from toluene diisocyanate production | 10 (4.54) |
| K028 Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane | 1 (0.454) |
| K029 Waste from the product steam stripper in the production of 1,1,1-trichloroethane | 1 (0.454) |
| K030 Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene | 1 (0.454) |
| K031 By-product salts generated in the production of MSMA and cacodylic acid | 1 (0.454) |
| K032 Wastewater treatment sludge from the production of chlordane | 10 (4.54) |
| K033 Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane | 10 (4.54) |
| K034 Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane | 10 (4.54) |
| K035 Wastewater treatment sludges generated in the production of creosote | 1 (0.454) |
| K036 Still bottoms from toluene reclamation distillation in the production of disulfoton | 1 (0.454) |
| K037 Wastewater treatment sludges from the production of disulfoton | 1 (0.454) |
| K038 Wastewater from the washing and stripping of phorate production | 10 (4.54) |
| K039 Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate | 10 (4.54) |
| K040 Wastewater treatment sludge from the production of phorate | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| K041 Wastewater treatment sludge from the production of toxaphene | 1 (0.454) |
| K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T | 10 (4.54) |
| K043 2,6-dichlorophenol waste from the production of 2,4-D | 10 (4.54) |
| K044 Wastewater treatment sludges from the manufacturing and processing of explosives | 10 (4.54) |
| K045 Spent carbon from the treatment of wastewater containing explosives | 10 (4.54) |
| K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds | 10 (4.54) |
| K047 Pink/red water from TNT operations | 10 (4.54) |
| K048 Dissolved air flotation (DAF) float from the petroleum refining industry | 10 (4.54) |
| K049 Slop oil emulsion solids from the petroleum refining industry | 10 (4.54) |
| K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry | 10 (4.54) |
| K051 API separator sludge from the petroleum refining industry | 10 (4.54) |
| K052 Tank bottoms (lead) from the petroleum refining industry | 10 (4.54) |
| K060 Ammonia still lime sludge from coking operations | 1 (0.454) |
| K061 Emission control dust/sludge from the primary production of steel in electric furnaces | 10 (4.54) |
| K062 Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry | 10 (4.54) |
| K064 Acid plant blowdown slurry/sludge resulting from thickening of blowdown slurry from primary copper production. | 10 (4.54) |
| K065 Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities. | 10 (4.54) |
| K066 Sludge from treatment of process wastewater and /or acid plant blowdown from primary zinc production. | 10 (4.54) |
| K069 Emission control dust/sludge from secondary lead smelting | 10 (4.54) |
| K071 Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used | 1 (0.454) |
| K073 Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production. | 10 (4.54) |
| K083 Distillation bottoms from aniline extraction | 100 (45.4) |
| K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 1 (0.454) |
| K085 Distillation or fractionation column bottoms from the production of chlorobenzenes | 10 (4.54) |
| K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead | 10 (4.54) |
| K087 Decanter tank tar sludge from coking operations | 100 (45.4) |
| K088 Spent potliners from primary aluminum reduction. | 10 (4.54) |
| K090 Emission control dust or sludge from ferrochromiumsilicon production. | 10 (4.54) |
| K091 Emission control dust or sludge from ferrochromium production. | 10 (4.54) |
| K093 Distillation light ends from the production of phthalic anhydride from ortho-xylene | 5000 (2270) |
| K094 Distillation bottoms from the production of phthalic anhydride from ortho-xylene | 5000 (2270) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|---|---|
| K095 Distillation bottoms from the production of 1,1,1-trichloroethane. | 100 (45.4) |
| K096 Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane. | 100 (45.4) |
| K097 Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane | 1 (0.454) |
| K098 Untreated process wastewater from the production of toxaphene | 1 (0.454) |
| K099 Untreated wastewater from the production of 2,4-D | 10 (4.54) |
| K100 Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting | 10 (4.54) |
| K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 1 (0.454) |
| K102 Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | 1 (0.454) |
| K103 Process residues from aniline extraction from the production of aniline | 100 (45.4) |
| K104 Combined wastewater streams generated from nitrobenzene/aniline chlorobenzenes | 10 (4.54) |
| K105 Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes | 10 (4.54) |
| K106 Wastewater treatment sludge from the mercury cell process in chlorine production | 1 (0.454) |
| K107 Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines | 10 (4.54) |
| K108 Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 10 (4.54) |
| K109 Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | 10 (4.54) |
| K110 Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazines (UDMH) from carboxylic acid hydrazides | 10 (4.54) |
| K111 Product washwaters from the production of dinitrotoluene via nitration of toluene. | 10 (4.54) |
| K112 Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene. | 10 (4.54) |
| K113 Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | 10 (4.54) |
| K114 Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | 10 (4.54) |
| K115 Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | 10 (4.54) |
| K116 Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine. | 10 (4.54) |
| K117 Wastewater from the reaction vent gas scrubber in the production of ethylene bromide via bromination of ethene. | 1 (0.454) |
| K118 Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide. | 1 (0.454) |
| K123 Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts. | 10 (4.54) |
| K124 Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts. | 10 (4.54) |
| K125 Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts. | 10 (4.54) |

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

| Hazardous substance | Reportable quantity (RQ) pounds (kilograms) |
|--|---|
| K126 Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts. | 10 (4.54) |
| K131 Waste water from the reactor and spent sulfuric acid from the acid dryer in the production of methyl bromide | 100 (45.4) |
| K132 Spent absorbent and wastewater solids from the production of methyl bromide | 1000 (454) |
| K136 Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. | 1 (0.454) |
| K141 | 1 (0.454) |
| K142 | 1 (0.454) |
| K143 | 1 (0.454) |
| K144 | 1 (0.454) |
| K145 | 1 (0.454) |
| K147 | 1 (0.454) |
| K148 | 1 (0.454) |
| K149 | 10 (4.54) |
| K150 | 10 (4.54) |
| K151 | 10 (4.54) |
| K156 | 1 (0.454) |
| K157 | 1 (0.454) |
| K158 | 1 (0.454) |
| K169 | 10 (4.54) |
| K170 | 1 (0.454) |
| K171 | 1 (0.454) |
| K172 | 1 (0.454) |
| K174 | 1 (0.454) |
| K175 | 1 (0.454) |
| K176 | 1 (0.454) |
| K177 | 5000 (2270) |
| K178 | 1 (0.454) |

Footnotes:
 c The RQ for these hazardous substances is limited to those pieces of the metal having a diameter smaller than 100 micrometers (0.004 inches)
 cç The RQ for asbestos is limited to friable forms only
 @ Indicates that the name was added by RSPA because (1) the name is a synonym for a specific hazardous substance and (2) the name appears in the Hazardous Materials Table as a proper shipping name.

LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

TABLE 2 TO APPENDIX A—RADIONUCLIDES

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|----------------------|-------------------|---------------------------------------|
| Actinium-224 | 89 | 100 (3.7) |
| Actinium-225 | 89 | 1 (.037) |
| Actinium-226 | 89 | 10 (.37) |
| Actinium-227 | 89 | 0.001 (.00037) |
| Actinium-228 | 89 | 10 (.37) |
| Aluminum-26 | 13 | 10 (.37) |
| Americium-237 | 95 | 1000 (37) |
| Americium-238 | 95 | 100 (3.7) |
| Americium-239 | 95 | 100 (3.7) |
| Americium-240 | 95 | 10 (.37) |
| Americium-241 | 95 | 0.01 (.00037) |
| Americium-242 | 95 | 100 (3.7) |
| Americium-242m | 95 | 0.01 (.00037) |
| Americium-243 | 95 | 0.01 (.00037) |
| Americium-244 | 95 | 10 (.37) |
| Americium-244m | 95 | 1000 (37) |
| Americium-245 | 95 | 1000 (37) |
| Americium-246 | 95 | 1000 (37) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|-------------------------------|-------------------|---------------------------------------|
| Americium-246m | 95 | 1000 (37) |
| Antimony-115 | 51 | 1000 (37) |
| Antimony-116 | 51 | 1000 (37) |
| Antimony-116m | 51 | 100 (3.7) |
| Antimony-117 | 51 | 1000 (37) |
| Antimony-118m | 51 | 10 (.37) |
| Antimony-119 | 51 | 1000 (37) |
| Antimony-120 (16 min) | 51 | 1000 (37) |
| Antimony-120 (5.76 day) | 51 | 10 (.37) |
| Antimony-122 | 51 | 10 (.37) |
| Antimony-124 | 51 | 10 (.37) |
| Antimony-124m | 51 | 1000 (37) |
| Antimony-125 | 51 | 10 (.37) |
| Antimony-126 | 51 | 10 (.37) |
| Antimony-126m | 51 | 1000 (37) |
| Antimony-127 | 51 | 10 (.37) |
| Antimony-128 (10.4 min) | 51 | 1000 (37) |
| Antimony-128 (9.01 hr) | 51 | 10 (.37) |
| Antimony-129 | 51 | 100 (3.7) |
| Antimony-130 | 51 | 100 (3.7) |
| Antimony-131 | 51 | 1000 (37) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------|-------------------|---------------------------------------|
| Argon-39 | 18 | 1000 (37) |
| Argon-41 | 18 | 10 (.37) |
| Arsenic-69 | 33 | 1000 (37) |
| Arsenic-70 | 33 | 100 (3.7) |
| Arsenic-71 | 33 | 100 (3.7) |
| Arsenic-72 | 33 | 10 (.37) |
| Arsenic-73 | 33 | 100 (3.7) |
| Arsenic-74 | 33 | 10 (.37) |
| Arsenic-76 | 33 | 100 (3.7) |
| Arsenic-77 | 33 | 1000 (37) |
| Arsenic-78 | 33 | 100 (3.7) |
| Astatine-207 | 85 | 100 (3.7) |
| Astatine-211 | 85 | 100 (3.7) |
| Barium-126 | 56 | 1000 (37) |
| Barium-128 | 56 | 10 (.37) |
| Barium-131 | 56 | 10 (.37) |
| Barium-131m | 56 | 1000 (37) |
| Barium-133 | 56 | 10 (.37) |
| Barium-133m | 56 | 100 (3.7) |
| Barium-135m | 56 | 1000 (37) |
| Barium-139 | 56 | 1000 (37) |
| Barium-140 | 56 | 10 (.37) |
| Barium-141 | 56 | 1000 (37) |
| Barium-142 | 56 | 1000 (37) |
| Berkelium-245 | 97 | 100 (3.7) |
| Berkelium-246 | 97 | 10 (.37) |
| Berkelium-247 | 97 | 0.01 (.00037) |
| Berkelium-249 | 97 | 1 (.037) |
| Berkelium-250 | 97 | 100 (3.7) |
| Beryllium-10 | 4 | 1 (.037) |
| Beryllium-7 | 4 | 100 (3.7) |
| Bismuth-200 | 83 | 100 (3.7) |
| Bismuth-201 | 83 | 100 (3.7) |
| Bismuth-202 | 83 | 1000 (37) |
| Bismuth-203 | 83 | 10 (.37) |
| Bismuth-205 | 83 | 10 (.37) |
| Bismuth-206 | 83 | 10 (.37) |
| Bismuth-207 | 83 | 10 (.37) |
| Bismuth-210 | 83 | 10 (.37) |
| Bismuth-210m | 83 | 0.1 (.0037) |
| Bismuth-212 | 83 | 100 (3.7) |
| Bismuth-213 | 83 | 100 (3.7) |
| Bismuth-214 | 83 | 100 (3.7) |
| Bromine-74 | 35 | 100 (3.7) |
| Bromine-74m | 35 | 100 (3.7) |
| Bromine-75 | 35 | 100 (3.7) |
| Bromine-76 | 35 | 10 (.37) |
| Bromine-77 | 35 | 100 (3.7) |
| Bromine-80 | 35 | 1000 (37) |
| Bromine-80m | 35 | 1000 (37) |
| Bromine-82 | 35 | 10 (.37) |
| Bromine-83 | 35 | 1000 (37) |
| Bromine-84 | 35 | 100 (3.7) |
| Cadmium-104 | 48 | 1000 (37) |
| Cadmium-107 | 48 | 1000 (37) |
| Cadmium-109 | 48 | 1 (.037) |
| Cadmium-113 | 48 | 0.1 (.0037) |
| Cadmium-113m | 48 | 0.1 (.0037) |
| Cadmium-115 | 48 | 100 (3.7) |
| Cadmium-115m | 48 | 10 (.37) |
| Cadmium-117 | 48 | 100 (3.7) |
| Cadmium-117m | 48 | 10 (.37) |
| Calcium-41 | 20 | 10 (.37) |
| Calcium-45 | 20 | 10 (.37) |
| Calcium-47 | 20 | 10 (.37) |
| Californium-244 | 98 | 1000 (37) |
| Californium-246 | 98 | 10 (.37) |
| Californium-248 | 98 | 0.1 (.0037) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------|-------------------|---------------------------------------|
| Californium-249 | 98 | 0.01 (.00037) |
| Californium-250 | 98 | 0.01 (.00037) |
| Californium-251 | 98 | 0.01 (.00037) |
| Californium-252 | 98 | 0.1 (.0037) |
| Californium-253 | 98 | 10 (.37) |
| Californium-254 | 98 | 0.1 (.0037) |
| Carbon-11 | 6 | 1000 (37) |
| Carbon-14 | 6 | 10 (.37) |
| Cerium-134 | 58 | 10 (.37) |
| Cerium-135 | 58 | 10 (.37) |
| Cerium-137 | 58 | 1000 (37) |
| Cerium-137m | 58 | 100 (3.7) |
| Cerium-139 | 58 | 100 (3.7) |
| Cerium-141 | 58 | 10 (.37) |
| Cerium-143 | 58 | 100 (3.7) |
| Cerium-144 | 58 | 1 (.037) |
| Cesium-125 | 55 | 1000 (37) |
| Cesium-127 | 55 | 100 (3.7) |
| Cesium-129 | 55 | 100 (3.7) |
| Cesium-130 | 55 | 1000 (37) |
| Cesium-131 | 55 | 1000 (37) |
| Cesium-132 | 55 | 10 (.37) |
| Cesium-134 | 55 | 1 (.037) |
| Cesium-134m | 55 | 1000 (37) |
| Cesium-135 | 55 | 10 (.37) |
| Cesium-135m | 55 | 100 (3.7) |
| Cesium-136 | 55 | 10 (.37) |
| Cesium-137 | 55 | 1 (.037) |
| Cesium-138 | 55 | 100 (3.7) |
| Chlorine-36 | 17 | 10 (.37) |
| Chlorine-38 | 17 | 100 (3.7) |
| Chlorine-39 | 17 | 100 (3.7) |
| Chromium-48 | 24 | 100 (3.7) |
| Chromium-49 | 24 | 1000 (37) |
| Chromium-51 | 24 | 1000 (37) |
| Cobalt-55 | 27 | 10 (.37) |
| Cobalt-56 | 27 | 10 (.37) |
| Cobalt-57 | 27 | 100 (3.7) |
| Cobalt-58 | 27 | 10 (.37) |
| Cobalt-58m | 27 | 1000 (37) |
| Cobalt-60 | 27 | 10 (.37) |
| Cobalt-60m | 27 | 1000 (37) |
| Cobalt-61 | 27 | 1000 (37) |
| Cobalt-62m | 27 | 1000 (37) |
| Copper-60 | 29 | 100 (3.7) |
| Copper-61 | 29 | 100 (3.7) |
| Copper-64 | 29 | 1000 (37) |
| Copper-67 | 29 | 100 (3.7) |
| Curium-238 | 96 | 1000 (37) |
| Curium-240 | 96 | 1 (.037) |
| Curium-241 | 96 | 10 (.37) |
| Curium-242 | 96 | 1 (.037) |
| Curium-243 | 96 | 0.01 (.00037) |
| Curium-244 | 96 | 0.01 (.00037) |
| Curium-245 | 96 | 0.01 (.00037) |
| Curium-246 | 96 | 0.01 (.00037) |
| Curium-247 | 96 | 0.01 (.00037) |
| Curium-248 | 96 | 0.001 (.000037) |
| Curium-249 | 96 | 1000 (37) |
| Dysprosium-155 | 66 | 100 (3.7) |
| Dysprosium-157 | 66 | 100 (3.7) |
| Dysprosium-159 | 66 | 100 (3.7) |
| Dysprosium-165 | 66 | 1000 (37) |
| Dysprosium-166 | 66 | 10 (.37) |
| Einsteinium-250 | 99 | 10 (.37) |
| Einsteinium-251 | 99 | 1000 (37) |
| Einsteinium-253 | 99 | 10 (.37) |
| Einsteinium-254 | 99 | 0.1 (.0037) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)— Atomic Num- ber | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------------|-------------------------------|---|
| Einsteinium-254m | 99 | 1 (.037) |
| Erbium-161 | 68 | 100 (3.7) |
| Erbium-165 | 68 | 1000 (37) |
| Erbium-169 | 68 | 100 (3.7) |
| Erbium-171 | 68 | 100 (3.7) |
| Erbium-172 | 68 | 10 (.37) |
| Europium-145 | 63 | 10 (.37) |
| Europium-146 | 63 | 10 (.37) |
| Europium-147 | 63 | 10 (.37) |
| Europium-148 | 63 | 10 (.37) |
| Europium-149 | 63 | 100 (3.7) |
| Europium-150 (12.6 hr) | 63 | 1000 (37) |
| Europium-150 (34.2 yr) | 63 | 10 (.37) |
| Europium-152 | 63 | 10 (.37) |
| Europium-152m | 63 | 100 (3.7) |
| Europium-154 | 63 | 10 (.37) |
| Europium-155 | 63 | 10 (.37) |
| Europium-156 | 63 | 10 (.37) |
| Europium-157 | 63 | 10 (.37) |
| Europium-158 | 63 | 1000 (37) |
| Fermium-252 | 100 | 10 (.37) |
| Fermium-253 | 100 | 10 (.37) |
| Fermium-254 | 100 | 100 (3.7) |
| Fermium-255 | 100 | 100 (3.7) |
| Fermium-257 | 100 | 1 (.037) |
| Fluorine-18 | 9 | 1000 (37) |
| Francium-222 | 87 | 100 (3.7) |
| Francium-223 | 87 | 100 (3.7) |
| Gadolinium-145 | 64 | 100 (3.7) |
| Gadolinium-146 | 64 | 10 (.37) |
| Gadolinium-147 | 64 | 10 (.37) |
| Gadolinium-148 | 64 | 0.001 (.000037) |
| Gadolinium-149 | 64 | 100 (3.7) |
| Gadolinium-151 | 64 | 100 (3.7) |
| Gadolinium-152 | 64 | 0.001 (.000037) |
| Gadolinium-153 | 64 | 10 (.37) |
| Gadolinium-159 | 64 | 1000 (37) |
| Gallium-65 | 31 | 1000 (37) |
| Gallium-66 | 31 | 10 (.37) |
| Gallium-67 | 31 | 100 (3.7) |
| Gallium-68 | 31 | 1000 (37) |
| Gallium-70 | 31 | 1000 (37) |
| Gallium-72 | 31 | 10 (.37) |
| Gallium-73 | 31 | 100 (3.7) |
| Germanium-66 | 32 | 100 (3.7) |
| Germanium-67 | 32 | 1000 (37) |
| Germanium-68 | 32 | 10 (.37) |
| Germanium-69 | 32 | 10 (.37) |
| Germanium-71 | 32 | 1000 (37) |
| Germanium-75 | 32 | 1000 (37) |
| Germanium-77 | 32 | 10 (.37) |
| Germanium-78 | 32 | 1000 (37) |
| Gold-193 | 79 | 100 (3.7) |
| Gold-194 | 79 | 10 (.37) |
| Gold-195 | 79 | 100 (3.7) |
| Gold-198 | 79 | 100 (3.7) |
| Gold-198m | 79 | 10 (.37) |
| Gold-199 | 79 | 100 (3.7) |
| Gold-200 | 79 | 1000 (37) |
| Gold-200m | 79 | 10 (.37) |
| Gold-201 | 79 | 1000 (37) |
| Hafnium-170 | 72 | 100 (3.7) |
| Hafnium-172 | 72 | 1 (.037) |
| Hafnium-173 | 72 | 100 (3.7) |
| Hafnium-175 | 72 | 100 (3.7) |
| Hafnium-177m | 72 | 1000 (37) |
| Hafnium-178m | 72 | 0.1 (.0037) |
| Hafnium-179m | 72 | 100 (3.7) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)— Atomic Num- ber | (3)—Reportable Quantity (RQ) Ci (TBq) |
|-----------------------|-------------------------------|---|
| Hafnium-180m | 72 | 100 (3.7) |
| Hafnium-181 | 72 | 10 (.37) |
| Hafnium-182 | 72 | 0.1 (.0037) |
| Hafnium-182m | 72 | 100 (3.7) |
| Hafnium-183 | 72 | 100 (3.7) |
| Hafnium-184 | 72 | 100 (3.7) |
| Holmium-155 | 67 | 1000 (37) |
| Holmium-157 | 67 | 1000 (37) |
| Holmium-159 | 67 | 1000 (37) |
| Holmium-161 | 67 | 1000 (37) |
| Holmium-162 | 67 | 1000 (37) |
| Holmium-162m | 67 | 1000 (37) |
| Holmium-164 | 67 | 1000 (37) |
| Holmium-164m | 67 | 1000 (37) |
| Holmium-166 | 67 | 100 (3.7) |
| Holmium-166m | 67 | 1 (.037) |
| Holmium-167 | 67 | 100 (3.7) |
| Hydrogen-3 | 1 | 100 (3.7) |
| Indium-109 | 49 | 100 (3.7) |
| Indium-110 (4.9 hr) | 49 | 10 (.37) |
| Indium-110 (69.1 min) | 49 | 100 (3.7) |
| Indium-111 | 49 | 100 (3.7) |
| Indium-112 | 49 | 1000 (37) |
| Indium-113m | 49 | 1000 (37) |
| Indium-114m | 49 | 10 (.37) |
| Indium-115 | 49 | 0.1 (.0037) |
| Indium-115m | 49 | 100 (3.7) |
| Indium-116m | 49 | 100 (3.7) |
| Indium-117 | 49 | 1000 (37) |
| Indium-117m | 49 | 100 (3.7) |
| Indium-119m | 49 | 1000 (37) |
| Iodine-120 | 53 | 10 (.37) |
| Iodine-120m | 53 | 100 (3.7) |
| Iodine-121 | 53 | 100 (3.7) |
| Iodine-123 | 53 | 10 (.37) |
| Iodine-124 | 53 | 0.1 (.0037) |
| Iodine-125 | 53 | 0.01 (.00037) |
| Iodine-126 | 53 | 0.01 (.00037) |
| Iodine-128 | 53 | 1000 (37) |
| Iodine-129 | 53 | 0.001 (.000037) |
| Iodine-130 | 53 | 1 (.037) |
| Iodine-131 | 53 | 0.01 (.00037) |
| Iodine-132 | 53 | 10 (.37) |
| Iodine-132m | 53 | 10 (.37) |
| Iodine-133 | 53 | 0.1 (.0037) |
| Iodine-134 | 53 | 100 (3.7) |
| Iodine-135 | 53 | 10 (.37) |
| Iridium-182 | 77 | 1000 (37) |
| Iridium-184 | 77 | 100 (3.7) |
| Iridium-185 | 77 | 100 (3.7) |
| Iridium-186 | 77 | 10 (.37) |
| Iridium-187 | 77 | 100 (3.7) |
| Iridium-188 | 77 | 10 (.37) |
| Iridium-189 | 77 | 100 (3.7) |
| Iridium-190 | 77 | 10 (.37) |
| Iridium-190m | 77 | 1000 (37) |
| Iridium-192 | 77 | 10 (.37) |
| Iridium-192m | 77 | 100 (3.7) |
| Iridium-194 | 77 | 100 (3.7) |
| Iridium-194m | 77 | 10 (.37) |
| Iridium-195 | 77 | 1000 (37) |
| Iridium-195m | 77 | 100 (3.7) |
| Iron-52 | 26 | 100 (3.7) |
| Iron-55 | 26 | 100 (3.7) |
| Iron-59 | 26 | 10 (.37) |
| Iron-60 | 26 | 0.1 (.0037) |
| Krypton-74 | 36 | 10 (.37) |
| Krypton-76 | 36 | 10 (.37) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------|-------------------|---------------------------------------|
| Krypton-77 | 36 | 10 (.37) |
| Krypton-79 | 36 | 100 (3.7) |
| Krypton-81 | 36 | 1000 (37) |
| Krypton-83m | 36 | 1000 (37) |
| Krypton-85 | 36 | 1000 (37) |
| Krypton-85m | 36 | 100 (3.7) |
| Krypton-87 | 36 | 10 (.37) |
| Krypton-88 | 36 | 10 (.37) |
| Lanthanum-131 | 57 | 1000 (37) |
| Lanthanum-132 | 57 | 100 (3.7) |
| Lanthanum-135 | 57 | 1000 (37) |
| Lanthanum-137 | 57 | 10 (.37) |
| Lanthanum-138 | 57 | 1 (.037) |
| Lanthanum-140 | 57 | 10 (.37) |
| Lanthanum-141 | 57 | 1000 (37) |
| Lanthanum-142 | 57 | 100 (3.7) |
| Lanthanum-143 | 57 | 1000 (37) |
| Lead-195m | 82 | 1000 (37) |
| Lead-198 | 82 | 100 (3.7) |
| Lead-199 | 82 | 100 (3.7) |
| Lead-200 | 82 | 100 (3.7) |
| Lead-201 | 82 | 100 (3.7) |
| Lead-202 | 82 | 1 (.037) |
| Lead-202m | 82 | 10 (.37) |
| Lead-203 | 82 | 100 (3.7) |
| Lead-205 | 82 | 100 (3.7) |
| Lead-209 | 82 | 1000 (37) |
| Lead-210 | 82 | 0.01 (.00037) |
| Lead-211 | 82 | 100 (3.7) |
| Lead-212 | 82 | 10 (.37) |
| Lead-214 | 82 | 100 (3.7) |
| Lutetium-169 | 71 | 10 (.37) |
| Lutetium-170 | 71 | 10 (.37) |
| Lutetium-171 | 71 | 10 (.37) |
| Lutetium-172 | 71 | 10 (.37) |
| Lutetium-173 | 71 | 100 (3.7) |
| Lutetium-174 | 71 | 10 (.37) |
| Lutetium-174m | 71 | 10 (.37) |
| Lutetium-176 | 71 | 1 (.037) |
| Lutetium-176m | 71 | 1000 (37) |
| Lutetium-177 | 71 | 100 (3.7) |
| Lutetium-177m | 71 | 10 (.37) |
| Lutetium-178 | 71 | 1000 (37) |
| Lutetium-178m | 71 | 1000 (37) |
| Lutetium-179 | 71 | 1000 (37) |
| Magnesium-28 | 12 | 10 (.37) |
| Manganese-51 | 25 | 1000 (37) |
| Manganese-52 | 25 | 10 (.37) |
| Manganese-52m | 25 | 1000 (37) |
| Manganese-53 | 25 | 1000 (37) |
| Manganese-54 | 25 | 10 (.37) |
| Manganese-56 | 25 | 100 (3.7) |
| Mendelevium-257 | 101 | 100 (3.7) |
| Mendelevium-258 | 101 | 1 (.037) |
| Mercury-193 | 80 | 100 (3.7) |
| Mercury-193m | 80 | 10 (.37) |
| Mercury-194 | 80 | 0.1 (.0037) |
| Mercury-195 | 80 | 100 (3.7) |
| Mercury-195m | 80 | 100 (3.7) |
| Mercury-197 | 80 | 1000 (37) |
| Mercury-197m | 80 | 1000 (37) |
| Mercury-199m | 80 | 1000 (37) |
| Mercury-203 | 80 | 10 (.37) |
| Molybdenum-101 | 42 | 1000 (37) |
| Molybdenum-90 | 42 | 100 (3.7) |
| Molybdenum-93 | 42 | 100 (3.7) |
| Molybdenum-93m | 42 | 10 (.37) |
| Molybdenum-99 | 42 | 100 (3.7) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|----------------------------|-------------------|---------------------------------------|
| Neodymium-136 | 60 | 1000 (37) |
| Neodymium-138 | 60 | 1000 (37) |
| Neodymium-139 | 60 | 1000 (37) |
| Neodymium-139m | 60 | 100 (3.7) |
| Neodymium-141 | 60 | 1000 (37) |
| Neodymium-147 | 60 | 10 (.37) |
| Neodymium-149 | 60 | 100 (3.7) |
| Neodymium-151 | 60 | 1000 (37) |
| Neptunium-232 | 93 | 1000 (37) |
| Neptunium-233 | 93 | 1000 (37) |
| Neptunium-234 | 93 | 10 (.37) |
| Neptunium-235 | 93 | 1000 (37) |
| Neptunium-236 (1.2 E 5 yr) | 93 | 0.1 (.0037) |
| Neptunium-236 (22.5 hr) | 93 | 100 (3.7) |
| Neptunium-237 | 93 | 0.01 (.00037) |
| Neptunium-238 | 93 | 10 (.37) |
| Neptunium-239 | 93 | 100 (3.7) |
| Neptunium-240 | 93 | 100 (3.7) |
| Nickel-56 | 28 | 10 (.37) |
| Nickel-57 | 28 | 10 (.37) |
| Nickel-59 | 28 | 100 (3.7) |
| Nickel-63 | 28 | 100 (3.7) |
| Nickel-65 | 28 | 100 (3.7) |
| Nickel-66 | 28 | 10 (.37) |
| Niobium-88 | 41 | 100 (3.7) |
| Niobium-89 (122 min) | 41 | 100 (3.7) |
| Niobium-89 (66 min) | 41 | 100 (3.7) |
| Niobium-90 | 41 | 10 (.37) |
| Niobium-93m | 41 | 100 (3.7) |
| Niobium-94 | 41 | 10 (.37) |
| Niobium-95 | 41 | 10 (.37) |
| Niobium-95m | 41 | 100 (3.7) |
| Niobium-96 | 41 | 10 (.37) |
| Niobium-97 | 41 | 100 (3.7) |
| Niobium-98 | 41 | 1000 (37) |
| Osmium-180 | 76 | 1000 (37) |
| Osmium-181 | 76 | 100 (3.7) |
| Osmium-182 | 76 | 100 (3.7) |
| Osmium-185 | 76 | 10 (.37) |
| Osmium-189m | 76 | 1000 (37) |
| Osmium-191 | 76 | 100 (3.7) |
| Osmium-191m | 76 | 1000 (37) |
| Osmium-193 | 76 | 100 (3.7) |
| Osmium-194 | 76 | 1 (.037) |
| Palladium-100 | 46 | 100 (3.7) |
| Palladium-101 | 46 | 100 (3.7) |
| Palladium-103 | 46 | 100 (3.7) |
| Palladium-107 | 46 | 100 (3.7) |
| Palladium-109 | 46 | 1000 (37) |
| Phosphorus-32 | 15 | 0.1 (.0037) |
| Phosphorus-33 | 15 | 1 (.037) |
| Platinum-186 | 78 | 100 (3.7) |
| Platinum-188 | 78 | 100 (3.7) |
| Platinum-189 | 78 | 100 (3.7) |
| Platinum-191 | 78 | 100 (3.7) |
| Platinum-193 | 78 | 1000 (37) |
| Platinum-193m | 78 | 100 (3.7) |
| Platinum-195m | 78 | 100 (3.7) |
| Platinum-197 | 78 | 1000 (37) |
| Platinum-197m | 78 | 1000 (37) |
| Platinum-199 | 78 | 1000 (37) |
| Platinum-200 | 78 | 100 (3.7) |
| Plutonium-234 | 94 | 1000 (37) |
| Plutonium-235 | 94 | 1000 (37) |
| Plutonium-236 | 94 | 0.1 (.0037) |
| Plutonium-237 | 94 | 1000 (37) |
| Plutonium-238 | 94 | 0.01 (.00037) |
| Plutonium-239 | 94 | 0.01 (.00037) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)— Atomic Num- ber | (3)—Reportable Quantity (RQ) Ci (TBq) |
|-----------------------------|-------------------------------|---|
| Plutonium-240 | 94 | 0.01 (.00037) |
| Plutonium-241 | 94 | 1 (.037) |
| Plutonium-242 | 94 | 0.01 (.00037) |
| Plutonium-243 | 94 | 1000 (37) |
| Plutonium-244 | 94 | 0.01 (.00037) |
| Plutonium-245 | 94 | 100 (3.7) |
| Polonium-203 | 84 | 100 (3.7) |
| Polonium-205 | 84 | 100 (3.7) |
| Polonium-207 | 84 | 10 (.37) |
| Polonium-210 | 84 | 0.01 (.00037) |
| Potassium-40 | 19 | 1 (.037) |
| Potassium-42 | 19 | 100 (3.7) |
| Potassium-43 | 19 | 10 (.37) |
| Potassium-44 | 19 | 100 (3.7) |
| Potassium-45 | 19 | 1000 (37) |
| Praseodymium-136 | 59 | 1000 (37) |
| Praseodymium-137 | 59 | 1000 (37) |
| Praseodymium-138m | 59 | 100 (3.7) |
| Praseodymium-139 | 59 | 1000 (37) |
| Praseodymium-142 | 59 | 100 (3.7) |
| Praseodymium-142m | 59 | 1000 (37) |
| Praseodymium-143 | 59 | 10 (.37) |
| Praseodymium-144 | 59 | 1000 (37) |
| Praseodymium-145 | 59 | 1000 (37) |
| Praseodymium-147 | 59 | 1000 (37) |
| Promethium-141 | 61 | 1000 (37) |
| Promethium-143 | 61 | 100 (3.7) |
| Promethium-144 | 61 | 10 (.37) |
| Promethium-145 | 61 | 100 (3.7) |
| Promethium-146 | 61 | 10 (.37) |
| Promethium-147 | 61 | 10 (.37) |
| Promethium-148 | 61 | 10 (.37) |
| Promethium-148m | 61 | 10 (.37) |
| Promethium-149 | 61 | 100 (3.7) |
| Promethium-150 | 61 | 100 (3.7) |
| Promethium-151 | 61 | 100 (3.7) |
| Protactinium-227 | 91 | 100 (3.7) |
| Protactinium-228 | 91 | 10 (.37) |
| Protactinium-230 | 91 | 10 (.37) |
| Protactinium-231 | 91 | 0.01 (.00037) |
| Protactinium-232 | 91 | 10 (.37) |
| Protactinium-233 | 91 | 100 (3.7) |
| Protactinium-234 | 91 | 10 (.37) |
| RADIONUCLIDES \$† | | 1 (.037) |
| Radium-223 | 88 | 1 (.037) |
| Radium-224 | 88 | 10 (.37) |
| Radium-225 | 88 | 1 (.037) |
| Radium-226 ** | 88 | 0.1 (.0037) |
| Radium-227 | 88 | 1000 (37) |
| Radium-228 | 88 | 0.1 (.0037) |
| Radon-220 | 86 | 0.1 (.0037) |
| Radon-222 | 86 | 0.1 (.0037) |
| Rhenium-177 | 75 | 1000 (37) |
| Rhenium-178 | 75 | 1000 (37) |
| Rhenium-181 | 75 | 100 (3.7) |
| Rhenium-182 (12.7 hr) | 75 | 10 (.37) |
| Rhenium-182 (64.0 hr) | 75 | 10 (.37) |
| Rhenium-184 | 75 | 10 (.37) |
| Rhenium-184m | 75 | 10 (.37) |
| Rhenium-186 | 75 | 100 (3.7) |
| Rhenium-186m | 75 | 10 (.37) |
| Rhenium-187 | 75 | 1000 (37) |
| Rhenium-188 | 75 | 1000 (37) |
| Rhenium-188m | 75 | 1000 (37) |
| Rhenium-189 | 75 | 1000 (37) |
| Rhodium-100 | 45 | 10 (.37) |
| Rhodium-101 | 45 | 10 (.37) |
| Rhodium-101m | 45 | 100 (3.7) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)— Atomic Num- ber | (3)—Reportable Quantity (RQ) Ci (TBq) |
|---------------------|-------------------------------|---|
| Rhodium-102 | 45 | 10 (.37) |
| Rhodium-102m | 45 | 10 (.37) |
| Rhodium-103m | 45 | 1000 (37) |
| Rhodium-105 | 45 | 100 (3.7) |
| Rhodium-106m | 45 | 10 (.37) |
| Rhodium-107 | 45 | 1000 (37) |
| Rhodium-99 | 45 | 10 (.37) |
| Rhodium-99m | 45 | 100 (3.7) |
| Rubidium-79 | 37 | 1000 (37) |
| Rubidium-81 | 37 | 100 (3.7) |
| Rubidium-81m | 37 | 1000 (37) |
| Rubidium-82m | 37 | 10 (.37) |
| Rubidium-83 | 37 | 10 (.37) |
| Rubidium-84 | 37 | 10 (.37) |
| Rubidium-86 | 37 | 10 (.37) |
| Rubidium-87 | 37 | 10 (.37) |
| Rubidium-88 | 37 | 1000 (37) |
| Rubidium-89 | 37 | 1000 (37) |
| Ruthenium-103 | 44 | 10 (.37) |
| Ruthenium-105 | 44 | 100 (3.7) |
| Ruthenium-106 | 44 | 1 (.037) |
| Ruthenium-94 | 44 | 1000 (37) |
| Ruthenium-97 | 44 | 100 (3.7) |
| Samarium-141 | 62 | 1000 (37) |
| Samarium-141m | 62 | 1000 (37) |
| Samarium-142 | 62 | 1000 (37) |
| Samarium-145 | 62 | 100 (3.7) |
| Samarium-146 | 62 | 0.01 (.00037) |
| Samarium-147 | 62 | 0.01 (.00037) |
| Samarium-151 | 62 | 10 (.37) |
| Samarium-153 | 62 | 100 (3.7) |
| Samarium-155 | 62 | 1000 (37) |
| Samarium-156 | 62 | 100 (3.7) |
| Scandium-43 | 21 | 1000 (37) |
| Scandium-44 | 21 | 100 (3.7) |
| Scandium-44m | 21 | 10 (.37) |
| Scandium-46 | 21 | 10 (.37) |
| Scandium-47 | 21 | 100 (3.7) |
| Scandium-48 | 21 | 10 (.37) |
| Scandium-49 | 21 | 1000 (37) |
| Selenium-70 | 34 | 1000 (37) |
| Selenium-73 | 34 | 10 (.37) |
| Selenium-73m | 34 | 100 (3.7) |
| Selenium-75 | 34 | 10 (.37) |
| Selenium-79 | 34 | 10 (.37) |
| Selenium-81 | 34 | 1000 (37) |
| Selenium-81m | 34 | 1000 (37) |
| Selenium-83 | 34 | 1000 (37) |
| Silicon-31 | 14 | 1000 (37) |
| Silicon-32 | 14 | 1 (.037) |
| Silver-102 | 47 | 100 (3.7) |
| Silver-103 | 47 | 1000 (37) |
| Silver-104 | 47 | 1000 (37) |
| Silver-104m | 47 | 1000 (37) |
| Silver-105 | 47 | 10 (.37) |
| Silver-106 | 47 | 1000 (37) |
| Silver-106m | 47 | 10 (.37) |
| Silver-108m | 47 | 10 (.37) |
| Silver-110m | 47 | 10 (.37) |
| Silver-111 | 47 | 10 (.37) |
| Silver-112 | 47 | 100 (3.7) |
| Silver-115 | 47 | 1000 (37) |
| Sodium-22 | 11 | 10 (.37) |
| Sodium-24 | 11 | 10 (.37) |
| Strontium-80 | 38 | 100 (3.7) |
| Strontium-81 | 38 | 1000 (37) |
| Strontium-83 | 38 | 100 (3.7) |
| Strontium-85 | 38 | 10 (.37) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------------|-------------------|---------------------------------------|
| Strontium-85m | 38 | 1000 (37) |
| Strontium-87m | 38 | 100 (3.7) |
| Strontium-89 | 38 | 10 (.37) |
| Strontium-90 | 38 | 0.1 (.0037) |
| Strontium-91 | 38 | 10 (.37) |
| Strontium-92 | 38 | 100 (3.7) |
| Sulfur-35 | 16 | 1 (.037) |
| Tantalum-172 | 73 | 100 (3.7) |
| Tantalum-173 | 73 | 100 (3.7) |
| Tantalum-174 | 73 | 100 (3.7) |
| Tantalum-175 | 73 | 100 (3.7) |
| Tantalum-176 | 73 | 10 (.37) |
| Tantalum-177 | 73 | 1000 (37) |
| Tantalum-178 | 73 | 1000 (37) |
| Tantalum-179 | 73 | 1000 (37) |
| Tantalum-180 | 73 | 100 (3.7) |
| Tantalum-180m | 73 | 1000 (37) |
| Tantalum-182 | 73 | 10 (.37) |
| Tantalum-182m | 73 | 1000 (37) |
| Tantalum-183 | 73 | 100 (3.7) |
| Tantalum-184 | 73 | 10 (.37) |
| Tantalum-185 | 73 | 1000 (37) |
| Tantalum-186 | 73 | 1000 (37) |
| Technetium-101 | 43 | 1000 (37) |
| Technetium-104 | 43 | 1000 (37) |
| Technetium-93 | 43 | 100 (3.7) |
| Technetium-93m | 43 | 1000 (37) |
| Technetium-94 | 43 | 10 (.37) |
| Technetium-94m | 43 | 100 (3.7) |
| Technetium-96 | 43 | 10 (.37) |
| Technetium-96m | 43 | 1000 (37) |
| Technetium-97 | 43 | 100 (3.7) |
| Technetium-97m | 43 | 100 (3.7) |
| Technetium-98 | 43 | 10 (.37) |
| Technetium-99 | 43 | 10 (.37) |
| Technetium-99m | 43 | 100 (3.7) |
| Tellurium-116 | 52 | 1000 (37) |
| Tellurium-121 | 52 | 10 (.37) |
| Tellurium-121m | 52 | 10 (.37) |
| Tellurium-123 | 52 | 10 (.37) |
| Tellurium-123m | 52 | 10 (.37) |
| Tellurium-125m | 52 | 10 (.37) |
| Tellurium-127 | 52 | 1000 (37) |
| Tellurium-127m | 52 | 10 (.37) |
| Tellurium-129 | 52 | 1000 (37) |
| Tellurium-129m | 52 | 10 (.37) |
| Tellurium-131 | 52 | 1000 (37) |
| Tellurium-131m | 52 | 10 (.37) |
| Tellurium-132 | 52 | 10 (.37) |
| Tellurium-133 | 52 | 1000 (37) |
| Tellurium-133m | 52 | 1000 (37) |
| Tellurium-134 | 52 | 1000 (37) |
| Terbium-147 | 65 | 100 (3.7) |
| Terbium-149 | 65 | 100 (3.7) |
| Terbium-150 | 65 | 100 (3.7) |
| Terbium-151 | 65 | 10 (.37) |
| Terbium-153 | 65 | 100 (3.7) |
| Terbium-154 | 65 | 10 (.37) |
| Terbium-155 | 65 | 100 (3.7) |
| Terbium-156 | 65 | 10 (.37) |
| Terbium-156m (24.4 hr) | 65 | 1000 (37) |
| Terbium-156m (5.0 hr) | 65 | 1000 (37) |
| Terbium-157 | 65 | 100 (3.7) |
| Terbium-158 | 65 | 10 (.37) |
| Terbium-160 | 65 | 10 (.37) |
| Terbium-161 | 65 | 100 (3.7) |
| Thallium-194 | 81 | 1000 (37) |
| Thallium-194m | 81 | 100 (3.7) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|---------------------------------|-------------------|---------------------------------------|
| Thallium-195 | 81 | 100 (3.7) |
| Thallium-197 | 81 | 100 (3.7) |
| Thallium-198 | 81 | 10 (.37) |
| Thallium-198m | 81 | 100 (3.7) |
| Thallium-199 | 81 | 100 (3.7) |
| Thallium-200 | 81 | 10 (.37) |
| Thallium-201 | 81 | 1000 (37) |
| Thallium-202 | 81 | 10 (.37) |
| Thallium-204 | 81 | 10 (.37) |
| Thorium (Irradiated) | 90 | *** |
| Thorium (Natural) | 90 | ** |
| Thorium-226 | 90 | 100 (3.7) |
| Thorium-227 | 90 | 1 (.037) |
| Thorium-228 | 90 | 0.01 (.00037) |
| Thorium-229 | 90 | 0.001 (.000037) |
| Thorium-230 | 90 | 0.01 (.00037) |
| Thorium-231 | 90 | 100 (3.7) |
| Thorium-232 ** | 90 | 0.001 (.000037) |
| Thorium-234 | 90 | 100 (3.7) |
| Thulium-162 | 69 | 1000 (37) |
| Thulium-166 | 69 | 10 (.37) |
| Thulium-167 | 69 | 100 (3.7) |
| Thulium-170 | 69 | 10 (.37) |
| Thulium-171 | 69 | 100 (3.7) |
| Thulium-172 | 69 | 100 (3.7) |
| Thulium-173 | 69 | 100 (3.7) |
| Thulium-175 | 69 | 1000 (37) |
| Tin-110 | 50 | 100 (3.7) |
| Tin-111 | 50 | 1000 (37) |
| Tin-113 | 50 | 10 (.37) |
| Tin-117m | 50 | 100 (3.7) |
| Tin-119m | 50 | 10 (.37) |
| Tin-121 | 50 | 1000 (37) |
| Tin-121m | 50 | 10 (.37) |
| Tin-123 | 50 | 10 (.37) |
| Tin-123m | 50 | 1000 (37) |
| Tin-125 | 50 | 10 (.37) |
| Tin-126 | 50 | 1 (.037) |
| Tin-127 | 50 | 100 (3.7) |
| Tin-128 | 50 | 1000 (37) |
| Titanium-44 | 22 | 1 (.037) |
| Titanium-45 | 22 | 1000 (37) |
| Tungsten-176 | 74 | 1000 (37) |
| Tungsten-177 | 74 | 100 (3.7) |
| Tungsten-178 | 74 | 100 (3.7) |
| Tungsten-179 | 74 | 1000 (37) |
| Tungsten-181 | 74 | 100 (3.7) |
| Tungsten-185 | 74 | 10 (.37) |
| Tungsten-187 | 74 | 100 (3.7) |
| Tungsten-188 | 74 | 10 (.37) |
| Uranium (Depleted) | 92 | *** |
| Uranium (Irradiated) | 92 | *** |
| Uranium (Natural) | 92 | ** |
| Uranium Enriched 20% or greater | 92 | *** |
| Uranium Enriched less than 20% | 92 | *** |
| Uranium-230 | 92 | 1 (.037) |
| Uranium-231 | 92 | 1000 (37) |
| Uranium-232 | 92 | 0.01 (.00037) |
| Uranium-233 | 92 | 0.1 (.0037) |
| Uranium-234 ** | 92 | 0.1 (.0037) |
| Uranium-235 ** | 92 | 0.1 (.0037) |
| Uranium-236 | 92 | 0.1 (.0037) |
| Uranium-237 | 92 | 100 (3.7) |
| Uranium-238 ** | 92 | 0.1 (.0037) |
| Uranium-239 | 92 | 1000 (37) |
| Uranium-240 | 92 | 1000 (37) |

TABLE 2 TO APPENDIX A—RADIONUCLIDES—
Continued

| (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci (TBq) |
|------------------|-------------------|---------------------------------------|
| Vanadium-47 | 23 | 1000 (37) |
| Vanadium-48 | 23 | 10 (.37) |
| Vanadium-49 | 23 | 1000 (37) |
| Xenon-120 | 54 | 100 (3.7) |
| Xenon-121 | 54 | 10 (.37) |
| Xenon-122 | 54 | 100 (3.7) |
| Xenon-123 | 54 | 10 (.37) |
| Xenon-125 | 54 | 100 (3.7) |
| Xenon-127 | 54 | 100 (3.7) |
| Xenon-129m | 54 | 1000 (37) |
| Xenon-131m | 54 | 1000 (37) |
| Xenon-133 | 54 | 1000 (37) |
| Xenon-133m | 54 | 1000 (37) |
| Xenon-135 | 54 | 100 (3.7) |
| Xenon-135m | 54 | 10 (.37) |
| Xenon-138 | 54 | 10 (.37) |
| Ytterbium-162 | 70 | 1000 (37) |
| Ytterbium-166 | 70 | 10 (.37) |
| Ytterbium-167 | 70 | 1000 (37) |
| Ytterbium-169 | 70 | 10 (.37) |
| Ytterbium-175 | 70 | 100 (3.7) |
| Ytterbium-177 | 70 | 1000 (37) |
| Ytterbium-178 | 70 | 1000 (37) |
| Yttrium-86 | 39 | 10 (.37) |
| Yttrium-86m | 39 | 1000 (37) |
| Yttrium-87 | 39 | 10 (.37) |
| Yttrium-88 | 39 | 10 (.37) |
| Yttrium-90 | 39 | 10 (.37) |
| Yttrium-90m | 39 | 100 (3.7) |
| Yttrium-91 | 39 | 10 (.37) |
| Yttrium-91m | 39 | 1000 (37) |
| Yttrium-92 | 39 | 100 (3.7) |
| Yttrium-93 | 39 | 100 (3.7) |
| Yttrium-94 | 39 | 1000 (37) |
| Yttrium-95 | 39 | 1000 (37) |
| Zinc-62 | 30 | 100 (3.7) |
| Zinc-63 | 30 | 1000 (37) |
| Zinc-65 | 30 | 10 (.37) |
| Zinc-69 | 30 | 1000 (37) |
| Zinc-69m | 30 | 100 (3.7) |
| Zinc-71m | 30 | 100 (3.7) |
| Zinc-72 | 30 | 100 (3.7) |
| Zirconium-86 | 40 | 100 (3.7) |
| Zirconium-88 | 40 | 10 (.37) |
| Zirconium-89 | 40 | 100 (3.7) |
| Zirconium-93 | 40 | 1 (.037) |
| Zirconium-95 | 40 | 10 (.37) |
| Zirconium-97 | 40 | 10 (.37) |

§The RQs for all radionuclides apply to chemical compounds containing the radionuclides and elemental forms regardless of the diameter of pieces of solid material.

†The RQ of one curie applies to all radionuclides not otherwise listed. Whenever the RQs in TABLE 1—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES and this table conflict, the lowest RQ shall apply. For example, uranyl acetate and uranyl nitrate have RQs shown in TABLE 1 of 100 pounds, equivalent to about one-tenth the RQ level for uranium-238 in this table.

**The method to determine the RQs for mixtures or solutions of radionuclides can be found in paragraph 7 of the note preceding TABLE 1 of this appendix. RQs for the following four common radionuclide mixtures are provided: radium-226 in secular equilibrium with its daughters (0.053 curie); natural uranium (0.1 curie); natural uranium in secular equilibrium with its daughters (0.052 curie); and natural thorium in secular equilibrium with its daughters (0.011 curie).

***Indicates that the name was added by RSPA because it appears in the list of radionuclides in 49 CFR 173.435. The reportable quantity (RQ), if not specifically listed elsewhere in this appendix, shall be determined in accordance with the procedures in paragraph 7 of this appendix.

[Amdt. 172-122, 55 FR 46798, Nov. 7, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting appendix A to §172.101, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

APPENDIX B TO §172.101—LIST OF MARINE POLLUTANTS

1. See §171.4 of this subchapter for applicability to marine pollutants. This appendix lists potential marine pollutants as defined in §171.8 of this subchapter.

2. Marine pollutants listed in this appendix are not necessarily listed by name in the §172.101 Table. If a marine pollutant not listed by name or by synonym in the §172.101 Table meets the definition of any hazard Class 1 through 8, then you must determine the class and division of the material in accordance with §173.2a of this subchapter. You must also select the most appropriate hazardous material description and proper shipping name. If a marine pollutant not listed by name or by synonym in the §172.101 Table does not meet the definition of any Class 1 through 8, then you must offer it for transportation under the most appropriate of the following two Class 9 entries: “Environmentally hazardous substances, liquid, n.o.s.,” UN3082, or “Environmentally hazardous substances, solid, n.o.s.” UN3077.

3. This appendix contains two columns. The first column, entitled “S.M.P.” (for severe marine pollutants), identifies whether a material is a severe marine pollutant. If the letters “PP” appear in this column for a material, the material is a severe marine pollutant, otherwise it is not. The second column, entitled “Marine Pollutant”, lists the marine pollutants.

4. If a material is not listed in this appendix and meets the criteria for a marine pollutant as provided in Chapter 2.10 of the IMDG Code, “Guidelines for the Identification of Harmful Substances in Packaged Form” (incorporated by reference; see §171.7 of this subchapter), the material may be transported as a marine pollutant in accordance with the applicable requirements of this subchapter.

5. If a material listed in this appendix does not meet the criteria for a marine pollutant as provided in Chapter 2.10 of the IMDG Code, “Guidelines for the Identification of Harmful Substances in Packaged Form” (incorporated by reference; see §171.7 of this subchapter), it may be excepted from the requirements of this subchapter as a marine pollutant if that exception is approved by the Associate Administrator.

| LIST OF MARINE POLLUTANTS | | LIST OF MARINE POLLUTANTS—Continued | |
|---------------------------|---|-------------------------------------|---|
| S.M.P. (1) | Marine pollutant (2) | S.M.P. (1) | Marine pollutant (2) |
| | Acetone cyanohydrin, stabilized | | Chlorine cyanide, inhibited |
| | Acetylene tetrabromide | | Chlormephos |
| | Acetylene tetrachloride | | Chloroacetone, stabilized |
| | Acraldehyde, inhibited | | 1-Chloro-2,3-Epoxypropane |
| | Acrolein, inhibited | | 2-Chloro-6-nitrotoluene |
| | Acrolein, stabilized | | 4-Chloro-2-nitrotoluene |
| | Acrylic aldehyde, inhibited | | Chloro-ortho-nitrotoluene |
| | Alcohol C-12 - C-16 poly(1-6) ethoxylate | | 2-Chloro-5-trifluoromethylnitrobenzene |
| | Alcohol C-13 - C-15 poly(1-6) ethoxylate | | para-Chlorobenzyl chloride, liquid or solid |
| | Alcohol C-6 - C-17 (secondary)poly(3-6) ethoxylate | | Chlorodinitrobenzenes, liquid or solid |
| | Aldicarb | | 1-Chloroheptane |
| PP | Aldrin | | 1-Chlorohexane |
| | Alkyl (c12-c14) dimethylamine | | Chloronitroanilines |
| | Alkyl (c7-c9) nitrates | | Chloronitrotoluenes, liquid |
| | Alkybenzenesulphonates, branched and straight chain (excluding C11–C13 straight chain or branched chain homologues) | | Chloronitrotoluenes, solid |
| | Allyl bromide | PP | 1-Chlorooctane |
| | ortho-Aminoanisole | PP | Chlorophenolates, liquid |
| | Aminocarb | | Chlorophenolates, solid |
| | Ammonium dinitro-o-cresolate | | Chlorophenyltrichlorosilane |
| | n-Amylbenzene | PP | alpha-Chloropropylene |
| PP | Azinphos-ethyl | PP | Chlorotoluenes (meta-;para-) |
| PP | Azinphos-methyl | | Chlorpyrifos |
| | Barium cyanide | | Chlorthiophos |
| | Bendiocarb | | Cocculus |
| | Benomyl | | Coconitrile |
| | Benquinox | | Copper acetoarsenite |
| | Benzyl chlorocarbonate | PP | Copper arsenite |
| | Benzyl chloroformate | PP | Copper chloride |
| PP | Binapacryl | PP | Copper chloride solution |
| | N,N-Bis (2-hydroxyethyl) oleamide (LOA) | PP | Copper cyanide |
| PP | Brodifacoum | PP | Copper metal powder |
| | Bromine cyanide | PP | Copper sulphate, anhydrous, hydrates |
| | Bromoacetone | PP | Coumachlor |
| | Bromoallylene | | Coumaphos |
| | Bromobenzene | | Cresyl diphenyl phosphate |
| | ortho-Bromobenzyl cyanide | | Crotonaldehyde, stabilized |
| | Bromocyanide | | Crotonic aldehyde, stabilized |
| | Bromoform | PP | Croxyphos |
| PP | Bromophos-ethyl | PP | Cupric arsenite |
| | 3-Bromopropene | PP | Cupric chloride |
| | Bromoxnill | PP | Cupric cyanide |
| | Butanedione | | Cupric sulfate |
| | 2-Butenal, stabilized | PP | Cupriethylenediamine solution |
| | Butyl benzyl phthalate | | Cuprous chloride |
| | N-tert-butyl-N-cyclopropyl-6-methylthio-1,3,5-triazine-2,4-diamine | | Cyanide mixtures |
| | 2,4-Di-tert-butylphenol | | Cyanide solutions |
| | 2,6-Di-tert-butylphenol | | Cyanides, inorganic, n.o.s. |
| | para-tertiary-butyltoluene | | Cyanogen bromide |
| PP | Cadmium compounds | PP | Cyanogen chloride, inhibited |
| | Cadmium sulphide | PP | Cyanogen chloride, stabilized |
| | Calcium arsenate | PP | Cyanophos |
| | Calcium arsenate and calcium arsenite, mixtures, solid | PP | 1,5,9-Cyclododecatriene |
| | Calcium cyanide | PP | Cyhexatin |
| PP | Camphechlor | | Cyrenes (o-;m-;p-) |
| | Carbaryl | | Cypermethrin |
| | Carbendazim | | Decyl acrylate |
| | Carbofuran | | DDT |
| | Carbon tetrabromide | | Decyloxytetrahydrothiophene dioxide |
| | Carbon tetrachloride | PP | DEF |
| PP | Carbophenothion | | Desmedipham |
| | Cartap hydrochloride | PP | Di-allate |
| | Chlordane | | Di-n-Butyl phthalate |
| | Chlorfenvinphos | PP | Dialifos |
| PP | Chlorinated paraffins (C-10 - C-13) | | 4,4'-Diaminodiphenylmethane |
| PP | Chlorinated paraffins (C14–C17), with more than 1% shorter chain length | PP | Diazinon |
| | Chlorine | | 1,3-Dibromobenzene |
| | | | Dichlofenthion |
| | | | Dichloroanilines |
| | | | 1,3-Dichlorobenzene |
| | | | 1,2-Dichlorobenzene |
| | | | 1,4-Dichlorobenzene |

LIST OF MARINE POLLUTANTS—Continued

| S.M.P. (1) | Marine pollutant (2) |
|---------------|---|
| | Dichlorobenzene (meta-; para-) |
| | 2,2-Dichlorodiethyl ether |
| | Dichlorodimethyl ether, symmetrical |
| | Di-(2-chloroethyl) ether |
| | 1,1-Dichloroethylene, inhibited |
| | 1,6-Dichlorohexane |
| | Dichlorophenyltrichlorosilane |
| PP | Dichlorvos |
| PP | Diclofop-methyl |
| | Dicrotophos |
| PP | Dieldrin |
| | Diisopropylbenzenes |
| | Diisopropylphthalenes, mixed isomers |
| PP | Dimethoate |
| PP | N,N-Dimethyldodecylamine |
| | Dimethylhydrazine, symmetrical |
| | Dimethylhydrazine, unsymmetrical |
| | Dinitro-o-cresol, <i>solid</i> |
| | Dinitro-o-cresol, <i>solution</i> |
| | Dinitrochlorobenzenes, liquid or solid |
| | Dinitrophenol, <i>dry or wetted with less than 15 per cent water, by mass</i> |
| | Dinitrophenol solutions |
| | Dinitrophenol, <i>wetted with not less than 15 per cent water, by mass</i> |
| | Dinitrophenolates <i>alkali metals, dry or wetted with less than 15 per cent water, by mass</i> |
| | Dinitrophenolates, <i>wetted with not less than 15 per cent water, by mass</i> |
| | Dinobuton |
| | Dinoseb |
| | Dinoseb acetate |
| | Dioxacarb |
| | Dioxathion |
| | Dipentene |
| | Diphacinone |
| | Diphenyl |
| | Diphenyl oxide and biphenyl phenyl ether mixtures |
| PP | Diphenylamine chloroarsine |
| PP | Diphenylchloroarsine, solid or liquid |
| | Disulfoton |
| | 1,4-Di-tert-butylbenzene |
| | DNOC |
| | DNOC (pesticide) |
| PP | Dodecyl diphenyl oxide disulphonate |
| | Dodecyl hydroxypropyl sulfide |
| PP | 1-Dodecylamine |
| | Dodecylphenol |
| | Drazoxolon |
| | Edifenphos |
| PP | Endosulfan |
| PP | Endrin |
| | Epibromohydrin |
| | Epichlorohydrin |
| PP | EPN |
| PP | Esfenvalerate |
| PP | Ethion |
| | Ethoprophos |
| | Ethyl fluid |
| | Ethyl mercaptan |
| | 2-Ethylhexyl nitrate |
| | 5-Ethyl-2-picoline |
| | Ethyl propenoate, inhibited |
| | 2-Ethyl-3-propylacrolein |
| | Ethyl tetraphosphate |
| | Ethylchloroarsine |
| | Ethylene dibromide and methyl bromide mixtures, liquid |
| | 2-Ethylhexaldehyde |
| PP | Fenamiphos |
| | Fenbutatin oxide |

LIST OF MARINE POLLUTANTS—Continued

| S.M.P. (1) | Marine pollutant (2) |
|---------------|--|
| PP | Fenchlorazole-ethyl |
| PP | Fenitrothion |
| PP | Fenoxapro-ethyl |
| PP | Fenoxaprop-P-ethyl |
| PP | Fenpropathrin |
| | Fensulfothion |
| PP | Fenthion |
| PP | Fentin acetate |
| PP | Fentin hydroxide |
| | Ferric arsenate |
| | Ferric arsenite |
| | Ferrous arsenate |
| PP | Fonofos |
| | Formetanate |
| PP | Furathiocarb (ISO) |
| PP | gamma-BHC |
| | Gasoline, leaded |
| PP | Heptachlor |
| | Heptenophos |
| | n-Heptaldehyde |
| | n-Heptylbenzene |
| | normal-Heptyl chloride |
| PP | Hexachlorobutadiene |
| PP | 1,3-Hexachlorobutadiene |
| | Hexaethyl tetraphosphate <i>liquid</i> |
| | Hexaethyl tetraphosphate, <i>solid</i> |
| | normal-Hexyl chloride |
| | n-Hexylbenzene |
| | Hydrocyanic acid, anhydrous, stabilized, containing less than 3% water |
| | Hydrocyanic acid, anhydrous, stabilized, containing less than 3% water and absorbed in a porous inert material |
| | Hydrocyanic acid, aqueous solutions <i>not more than 20% hydrocyanic acid</i> |
| | Hydrogen cyanide solution in alcohol, <i>with not more than 45% hydrogen cyanide</i> |
| | Hydrogen cyanide, stabilized <i>with less than 3% water</i> |
| | Hydrogen cyanide, stabilized <i>with less than 3% water and absorbed in a porous inert material</i> |
| | Hydroxydimethylbenzenes, liquid or solid |
| | Ioxynil |
| | Isoamyl mercaptan |
| | Isobenzan |
| | Isobutyl butyrate |
| | Isobutylbenzene |
| | Isodecyl acrylate |
| | Isodecyl diphenyl phosphate |
| | Isufenphos |
| | Isocetyl nitrate |
| | Isoproc carb |
| | Isopropenylbenzene |
| | Isotetramethylbenzene |
| PP | Isoxathion |
| | Lead acetate |
| | Lead arsenates |
| | Lead arsenites |
| | Lead compounds, soluble, n.o.s. |
| | Lead cyanide |
| | Lead nitrate |
| | Lead perchlorate, solid or solution |
| | Lead tetraethyl |
| | Lead tetramethyl |
| PP | Lindane |
| | Linuron |
| | London Purple |
| | Magnesium arsenate |
| | Malathion |
| | Mancozeb (ISO) |
| | Maneb |

| LIST OF MARINE POLLUTANTS—Continued | | LIST OF MARINE POLLUTANTS—Continued | |
|-------------------------------------|--|-------------------------------------|---|
| S.M.P. (1) | Marine pollutant (2) | S.M.P. (1) | Marine pollutant (2) |
| | Maneb preparations <i>with not less than 60% maneb</i> | | Methylchlorobenzenes |
| | Maneb preparation, stabilized against self-heating | | Methylnitrophenols |
| | Maneb stabilized or Maneb preparations, stabilized | | 3-Methylpyridine |
| | <i>against self-heating</i> | | Methyltrithion |
| | Manganese ethylene-1,2-bis dithiocarbamate | | Methylvinylbenzenes, inhibited |
| | Manganese ethylene-1,2-bis-dithiocarbamate, sta- | PP | Mevinphos |
| | bilized against self-heating | | Mexacarbate |
| | Mecarbam | | Mirex |
| | Mephofoian | | Monocrotophos |
| | Mercaptodimethur | | Motor fuel anti-knock mixtures |
| PP | Mercuric acetate | | Motor fuel anti-knock mixtures or compounds |
| PP | Mercuric ammonium chloride | | Nabam |
| PP | Mercuric arsenate | | Naled |
| PP | Mercuric benzoate | PP | Nickel carbonyl |
| PP | Mercuric bisulphate | PP | Nickel cyanide |
| PP | Mercuric bromide | PP | Nickel tetracarbonyl |
| PP | Mercuric chloride | | 3-Nitro-4-chlorobenzotrifluoride |
| PP | Mercuric cyanide | | Nitrobenzene |
| PP | Mercuric gluconate | | Nitrobenzotrifluorides, liquid or solid |
| | Mercuric iodide | | Nonylphenol |
| PP | Mercuric nitrate | | <i>normal</i> -Octaldehyde |
| PP | Mercuric oleate | | Oleylamine |
| PP | Mercuric oxide | PP | Organotin compounds, liquid, n.o.s. |
| PP | Mercuric oxycyanide, desensitized | PP | Organotin compounds (pesticides) |
| PP | Mercuric potassium cyanide | PP | Organotin compounds, solid, n.o.s. |
| PP | Mercuric Sulphate | PP | Organotin pesticides, liquid, flammable, toxic, n.o.s., |
| PP | Mercuric thiocyanate | | <i>flash point less than 23deg C</i> |
| PP | Mercuriol | PP | Organotin pesticides, liquid, toxic, flammable, n.o.s. |
| PP | Mercurous acetate | PP | Organotin pesticides, liquid, toxic, n.o.s. |
| PP | Mercurous bisulphate | PP | Organotin pesticides, solid, toxic, n.o.s. |
| PP | Mercurous bromide | | Orthoarsenic acid |
| PP | Mercurous chloride | PP | Osmium tetroxide |
| PP | Mercurous nitrate | | Oxamyl |
| PP | Mercurous salicylate | | Oxydisulfoton |
| PP | Mercurous sulphate | | Paraoxon |
| PP | Mercury acetates | PP | Parathion |
| PP | Mercury ammonium chloride | PP | Parathion-methyl |
| PP | Mercury based pesticide, liquid, flammable, toxic | PP | PCBs. |
| PP | Mercury based pesticides, liquid, toxic, flammable | | Pentachloroethane |
| PP | Mercury based pesticides, liquid, toxic | PP | Pentachlorophenol |
| PP | Mercury based pesticides, solid, toxic | | Pentalin |
| PP | Mercury benzoate | | Pentanethiols |
| PP | Mercury bichloride | | n-Pentylbenzene |
| PP | Mercury bisulphates | | Perchloroethylene |
| PP | Mercury bromides | | Perchloromethylmercaptan |
| PP | Mercury compounds, liquid, n.o.s. | | Petrol, leaded |
| PP | Mercury compounds, solid, n.o.s. | PP | Phenarsazine chloride |
| PP | Mercury cyanide | | d-Phenothrin |
| PP | Mercury gluconate | PP | Phenthoate |
| PP | Mercury (I) (mercurous) compounds (pesticides) | | 1-Phenylbutane |
| PP | Mercury (II) (mercuric) compounds (pesticides) | | 2-Phenylbutane |
| | Mercury iodide | | Phenylcyclohexane |
| PP | Mercury nucleate | PP | Phenylmercuric acetate |
| PP | Mercury oleate | PP | Phenylmercuric compounds, n.o.s. |
| PP | Mercury oxide | PP | Phenylmercuric hydroxide |
| PP | Mercury oxycyanide, desensitized | PP | Phenylmercuric nitrate |
| PP | Mercury potassium cyanide | | 2-Phenylpropene |
| PP | Mercury potassium iodide | PP | Phorate |
| PP | Mercury salicylate | PP | Phosalone |
| PP | Mercury sulfates | | Phosmet |
| PP | Mercury thiocyanate | PP | Phosphamidon |
| | Metam-sodium | PP | Phosphorus, white, molten |
| | Methamidophos | PP | Phosphorus, white or yellow dry or under water or in |
| | Methanethiol | | solution |
| | Methidathion | PP | Phosphorus white, or yellow, molten |
| | Methomyl | PP | Phosphorus, yellow, molten |
| | ortho-Methoxyaniline | | Pindone (and salts of) |
| | Methyl bromide and ethylene dibromide mixtures, liq- | PP | Pirimicarb |
| | uid | PP | Pirimiphos-ethyl |
| | Methyl mercaptan | PP | Polychlorinated biphenyls |
| | 3-Methylacroleine, stabilized | PP | Polyhalogenated biphenyls, liquid or Terphenyls liq- |
| | | | uid |

LIST OF MARINE POLLUTANTS—Continued

| S.M.P. (1) | Marine pollutant (2) |
|---------------|--|
| PP | Polyhalogenated biphenyls, solid or Terphenyls, solid |
| PP | Potassium cuprocyanide |
| | Potassium cyanide, solid |
| | Potassium cyanide, solution |
| PP | Potassium cyanocuprate (I) |
| PP | Potassium cyanomercurate |
| PP | Potassium mercuric iodide |
| | Promecarb |
| | Propachlor |
| | Propaphos |
| | Propenal, inhibited |
| | Propoxur |
| | Prothoate |
| | Prussic acid, anhydrous, stabilized |
| | Prussic acid, anhydrous, stabilized, absorbed in a porous inert material |
| PP | Pyrazophos |
| | Quinalphos |
| PP | Quizalofop |
| PP | Quizalofop-p-ethyl |
| | Rotenone |
| | Salithion |
| PP | Silafluofen |
| | Silver arsenite |
| | Silver cyanide |
| | Silver orthoarsenite |
| PP | Sodium copper cyanide, solid |
| PP | Sodium copper cyanide solution |
| PP | Sodium cuprocyanide, solid |
| PP | Sodium cuprocyanide, solution |
| | Sodium cyanide, solid |
| | Sodium cyanide, solution |
| | Sodium dinitro-o-cresolate, dry or wetted with less than 15 per cent water, by mass |
| | Sodium dinitro-ortho-cresolate, wetted with not less than 15 per cent water, by mass |
| PP | Sodium pentachlorophenate |
| | Strychnine or Strychnine salts |
| | Sulfotep |
| PP | Sulprophos |
| | Tallow nitrile |
| | Temephos |
| | TEPP |
| PP | Terbufos |
| | Tetrabromoethane |
| | Tetrabromomethane |
| | 1,1,2,2-Tetrachloroethane |
| | Tetrachloroethylene |
| | Tetrachloromethane |
| | Tetrachlorophenol |
| | Tetraethyl dithiopyrophosphate |
| PP | Tetraethyl lead, liquid |
| | Tetramethrin |
| | Tetramethyllead |
| | Thallium chlorate |
| | Thallium compounds, n.o.s. |
| | Thallium compounds (pesticides) |
| | Thallium nitrate |
| | Thallium sulfate |
| | Thallos chlorate |
| | Thiocarbonyl tetrachloride |
| | Triaryl phosphates, isopropylated |
| PP | Triaryl phosphates, n.o.s. |
| | Triazophos |
| | Tribromomethane |
| PP | Tributyltin compounds |
| | Trichlorfon |
| PP | 1,2,3—Trichlorobenzene |
| | Trichlorobenzenes, liquid |
| | Trichlorobutene |

LIST OF MARINE POLLUTANTS—Continued

| S.M.P. (1) | Marine pollutant (2) |
|---------------|---|
| | Trichlorobutylene |
| | Trichloromethane sulphuryl chloride |
| | Trichloromethyl sulphochloride |
| | Trichloronat |
| | Tricresyl phosphate (less than 1% ortho-isomer) |
| PP | Tricresyl phosphate, not less than 1% ortho-isomer but not more than 3% orthoisomer |
| PP | Tricresyl phosphate with more than 3 per cent ortho isomer |
| | Triethylbenzene |
| | Triisopropylated phenyl phosphates |
| | Trimethylene dichloride |
| PP | Triphenylphosphate |
| | Triphenyl phosphate/tert-butylated triphenyl phosphates mixtures containing 5% to 10% triphenyl phosphates |
| PP | Triphenyl phosphate/tert-butylated triphenyl phosphates mixtures containing 10% to 48% triphenyl phosphates |
| PP | Triphenyltin compounds |
| | Tritolyl phosphate (less than 1% ortho-isomer) |
| PP | Tritolyl phosphate (not less than 1% ortho-isomer) |
| | Trixylenyl phosphate |
| | Vinylidene chloride, stabilized |
| | Warfarin (and salts of) |
| PP | White phosphorus, dry |
| PP | White phosphorus, wet |
| | White spirit, low (15-20%) aromatic |
| PP | Yellow phosphorus, dry |
| PP | Yellow phosphorus, wet |
| | Zinc bromide |
| | Zinc cyanide |

[Amdt. 172–127, 57 FR 52935, Nov. 5, 1992]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting appendix B to §172.101, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 172.102 Special provisions.

(a) *General.* When column 7 of the §172.101 table refers to a special provision for a hazardous material, the meaning and requirements of that provision are as set forth in this section. When a special provision specifies packaging or packaging requirements—

(1) The special provision is in addition to the standard requirements for all packagings prescribed in §173.24 of this subchapter and any other applicable packaging requirements in subparts A and B of part 173 of this subchapter; and

(2) To the extent a special provision imposes limitations or additional requirements on the packaging provisions set forth in column 8 of the

§172.101 table, packagings must conform to the requirements of the special provision.

(b) *Description of codes for special provisions.* Special provisions contain packaging provisions, prohibitions, exceptions from requirements for particular quantities or forms of materials and requirements or prohibitions applicable to specific modes of transportation, as follows:

(1) A code consisting only of numbers (for example, "11") is multi-modal in application and may apply to bulk and non-bulk packagings.

(2) A code containing the letter "A" refers to a special provision which applies only to transportation by aircraft.

(3) A code containing the letter "B" refers to a special provision which applies only to bulk packaging requirements. Unless otherwise provided in this subchapter, these special provisions do not apply to IM portable tanks.

(4) A code containing the letter "H" refers to a special provision which applies only to transportation by highway.

(5) A code containing the letter "N" refers to a special provision which applies only to non-bulk packaging requirements.

(6) A code containing the letter "R" refers to a special provision which applies only to transportation by rail.

(7) A code containing the letter "T" refers to a special provision which applies only to transportation in IM portable tanks.

(8) A code containing the letter "W" refers to a special provision which applies only to transportation by water.

(c) *Tables of special provisions.* The following tables list, and set forth the requirements of, the special provisions referred to in column 7 of the §172.101 table.

(1) *Numeric provisions.* These provisions are multi-modal and apply to bulk and non-bulk packagings:

Code/Special Provisions

1 This material is poisonous by inhalation (see §171.8 of this subchapter) in Hazard Zone A (see §173.116(a) or §173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.

2 This material is poisonous by inhalation (see §171.8 of this subchapter) in Hazard Zone B (see §173.116(a) or §173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.

3 This material is poisonous by inhalation (see §171.8 of this subchapter) in Hazard Zone C (see §173.116(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.

4 This material is poisonous by inhalation (see §171.8 of this subchapter) in Hazard Zone D (see §173.116(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.

5 If this material meets the definition for a material poisonous by inhalation (see §171.8 of this subchapter), a shipping name must be selected which identifies the inhalation hazard, in Division 2.3 or Division 6.1, as appropriate.

6 This material is poisonous-by-inhalation and must be described as an inhalation hazard under the provisions of this subchapter.

8 A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.

9 Packaging for certain PCBs for disposal and storage is prescribed by EPA in 40 CFR 761.60 and 761.65.

11 The hazardous material must be packaged as either a liquid or a solid, as appropriate, depending on its physical form at 55 °C (131 °F) at atmospheric pressure.

12 In concentrations greater than 40 percent, this material has strong oxidizing properties and is capable of starting fires in contact with combustible materials. If appropriate, a package containing this material must conform to the additional labeling requirements of §172.402 of this subchapter.

13 The words "Inhalation Hazard" shall be entered on each shipping paper in association with the shipping description, shall be marked on each non-bulk package in association with the proper shipping name and identification number, and shall be marked on two opposing sides of each bulk package. Size of marking on bulk package must conform to §172.302(b) of this subchapter. The requirements of §§172.203(m) and 172.505 of this subchapter do not apply.

14 Motor fuel antiknock mixtures are:
a. Mixtures of one or more organic lead mixtures (such as tetraethyl lead, triethylmethyl lead, diethyldimethyl lead, ethyltrimethyl lead, and tetramethyl lead) with one or more halogen compounds (such as ethylene

- dibromide and ethylene dichloride), hydrocarbon solvents or other equally efficient stabilizers; or
- b. tetraethyl lead.
- 15 This entry applies to “Chemical kits” and “First aid kits” containing one or more compatible items of hazardous materials in boxes, cases, etc. that are used for medical, analytical, diagnostic or testing purposes. For transportation by aircraft, materials forbidden for transportation by passenger aircraft or cargo aircraft may not be included in the kits. The quantity of hazardous materials in any inner packaging must not exceed the limited quantity inner packaging limits specified for each hazardous material in the applicable limited quantity sections (§ 173.150 through § 173.155, and § 173.306) in part 173 of this subchapter. Each package must conform to the packaging requirements of subpart B of part 173 and must not exceed 30 kg (66 lbs.) gross weight. Chemical kits and first aid kits are excepted from the specification packaging requirements of this subchapter when packaged in combination packagings. Chemical kits and first aid kits are also excepted from the labeling and placarding requirements of this subchapter, except when offered for transportation or transported by air. Chemical and first aid kits may be transported in accordance with the consumer commodity and ORM exceptions in § 173.156, provided they meet all required conditions. Kits that are carried on board transport vehicles for first aid or operating purposes are not subject to the requirements of this subchapter.
- 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.
- 18 This description is authorized only for fire extinguishers listed in § 173.309(b) of this subchapter meeting the following conditions:
- Each fire extinguisher may only have extinguishing contents that are nonflammable, non-poisonous, non-corrosive and commercially free from corroding components.
 - Each fire extinguisher must be charged with a nonflammable, non-poisonous, dry gas that has a dew-point at or below minus 46.7 °C (minus 52 °F) at 101 kPa (1 atmosphere) and is free of corroding components, to not more than the service pressure of the cylinder.
 - A fire extinguisher may not contain more than 30% carbon dioxide by volume or any other corrosive extinguishing agent.
 - Each fire extinguisher must be protected externally by suitable corrosion-resisting coating.
- 19 For domestic transportation only, the identification number “UN1075” may be used in place of the identification number specified in column (4) of the § 172.101 table. The identification number used must be consistent on package markings, shipping papers and emergency response information.
- 21 This material must be stabilized by appropriate means (e.g., addition of chemical inhibitor, purging to remove oxygen) to prevent dangerous polymerization (see § 173.21(f) of this subchapter).
- 22 If the hazardous material is in dispersion in organic liquid, the organic liquid must have a flash point above 50 °C (122 °F).
- 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. Quantities of not more than 500 g per package with not less than 10 percent water by mass may also be classed in Division 4.1, provided a negative test result is obtained when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria (see § 171.7 of this subchapter).
- 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.
- 28 The dihydrated sodium salt of dichloroisocyanuric acid is not subject to the requirements of this subchapter.
- 29 Lithium cells and batteries and equipment containing or packed with lithium cells and batteries which do not comply with the provisions of § 173.185 of this subchapter may be transported only if they are approved by the Associate Administrator.
- 30 Sulfur is not subject to the requirements of this subchapter if transported in a non-bulk packaging or if formed to a specific shape (for example, prills, granules, pellets, pastilles, or flakes). A bulk packaging containing sulfur is not subject to the placarding requirements of subpart F of this part, if it is marked with the appropriate identification number as required by subpart D of this part. Molten sulfur must be marked as required by § 172.325 of this subchapter.
- 31 Materials which have undergone sufficient heat treatment to render them non-hazardous are not subject to the requirements of this subchapter.
- 32 Polymeric beads and molding compounds may be made from polystyrene,

- poly(methyl methacrylate) or other polymeric material.
- 33 Ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt are prohibited.
- 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 Antimony sulphides and oxides which do not contain more than 0.5 percent of arsenic calculated on the total mass do not meet the definition of Division 6.1.
- 36 The maximum net quantity per package is 5 L (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).
- 38 If this material shows a violent effect in laboratory tests involving heating under confinement, the labeling requirements of Special Provision 53 apply, and the material must be packaged in accordance with packing method OP6 in §173.225 of this subchapter. If the SADT of the technically pure substance is higher than 75°C , the technically pure substance and formulations derived from it are not self-reactive materials and, if not meeting any other hazard class, are not subject to the requirements of this subchapter.
- 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 (see §171.7 of this subchapter).
- 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 membrane filters, including paper separators and coating or backing materials, that are present in transport, must not be able to propagate a detonation as tested by one of the tests described in the UN Manual of Tests and Criteria, Part I, Test series 1(a) (see §171.7 of this subchapter). On the basis of the results of suitable burning rate tests, and taking into account the standard tests in the UN Manual of Tests and Criteria, Part III, subsection 33.2.1 (see §171.7 of this subchapter), nitrocellulose membrane filters in the form in which they are to be transported that do not meet the criteria for a Division 4.1 material are not subject to the requirements of this subchapter. Packagings must be so constructed that explosion is not possible by reason of increased internal pressure. Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the requirements of this subchapter when contained individually in an article or a sealed packet.
- 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, not classed as a Division 4.1 (flammable solid) when tested in accordance with the procedures specified in §173.124 of this subchapter (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to the requirements of 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 OP6 (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. Small inner packagings consisting of sealed packets containing less than 10 mL of a Class 3 liquid in Packing Group II or III absorbed onto a solid material are not subject to this subchapter

- provided there is no free liquid in the pack-
et.
- 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 or plastic 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. Model rocket motors containing 30 grams or less propellant are classed as Division 1.4S and items containing more than 30 grams of propellant but not more than 62.5 grams of propellant are classed as Division 1.4C.
- 52 This entry may only be used for substances that do not exhibit explosive properties of Class 1 (explosive) when tested in accordance with Test Series 1 and 2 of Class 1 (explosive) in the UN Manual of Tests and Criteria, Part I (incorporated by reference; see § 171.7 of this subchapter).
- 53 Packages of these materials must bear the subsidiary risk label, "EXPLOSIVE", unless otherwise provided in this subchapter or through an approval issued by the Associate Administrator, or the competent authority of the country of origin. A copy of the approval shall accompany the shipping papers.
- 54 Maneb or maneb preparations not meeting the definition of Division 4.3 or any other hazard class are not subject to the requirements of this subchapter when transported by motor vehicle, rail car, or aircraft.
- 55 This device must be approved in accordance with § 173.56 of this subchapter by the Associate Administrator.
- 56 A means to interrupt and prevent detonation of the detonator from initiating the detonating cord must be installed between each electric detonator and the detonating cord ends of the jet perforating guns before the charged jet perforating guns are offered for transportation.
- 57 Maneb or Maneb preparations stabilized against self-heating need not be classified in Division 4.2 when it can be demonstrated by testing that a volume of 1 m³ of substance does not self-ignite and that the temperature at the center of the sample does not exceed 200 °C, when the sample is maintained at a temperature of not less than 75 °C ± 2 °C for a period of 24 hours, in accordance with procedures set forth for testing self-heating materials in the UN Manual of Tests and Criteria (see § 171.7 of this subchapter).
- 58 Aqueous solutions of Division 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of Division 5.1 if the concentration of the substances in solution at the minimum temperature encountered in transport is not greater than 80% of the saturation limit.
- 59 Ferrocium, stabilized against corrosion, with a minimum iron content of 10 percent is not subject to the requirements of this subchapter.
- 60 After September 30, 1997, an oxygen generator, chemical, that is shipped with its means of initiation attached must incorporate at least two positive means of preventing unintentional actuation of the generator, and be classed and approved by the Associate Administrator. The procedures for approval of a chemical oxygen generator that contains an explosive means of initiation (e.g., a primer or electric match) are specified in § 173.56 of this subchapter. Each person who offers a chemical oxygen generator for transportation after September 30, 1997, shall: (1) ensure that it is offered in conformance with the conditions of the approval; (2) maintain a copy of the approval at each facility where the chemical oxygen generator is packaged; and (3) mark the approval number on the outside of the package.
- 61 A chemical oxygen generator is spent if its means of ignition and all or a part of its chemical contents have been expended.
- 64 The group of alkali metals includes lithium, sodium, potassium, rubidium, and caesium.
- 65 The group of alkaline earth metals includes magnesium, calcium, strontium, and barium.
- 66 Formulations of these substances containing not less than 30 percent non-volatile, non-flammable phlegmatizer are not subject to this subchapter.
- 70 Black powder that has been classed in accordance with the requirements of § 173.56 of this subchapter may be reclassified and offered for domestic transportation as a Division 4.1 material if it is offered for transportation and transported in accordance

- with the limitations and packaging requirements of § 173.170 of this subchapter.
- 74 During transport, this material must be protected from direct sunshine and stored or kept in a cool and well-ventilated place, away from all sources of heat.
- 77 For domestic transportation, a Division 5.1 subsidiary risk label is required only if a carbon dioxide and oxygen mixture contains more than 23.5% oxygen.
- 78 This entry may not be used to describe compressed air which contains more than 23.5 percent oxygen. An oxidizer label is not required for any oxygen concentration of 23.5 percent or less.
- 79 This entry may not be used for mixtures that meet the definition for oxidizing gas.
- 81 Polychlorinated biphenyl items, as defined in 40 CFR 761.3, for which specification packagings are impractical, may be packaged in non-specification packagings meeting the general packaging requirements of subparts A and B of part 173 of this subchapter. Alternatively, the item itself may be used as a packaging if it meets the general packaging requirements of subparts A and B of part 173 of this subchapter.
- 101 The name of the particular substance or article must be specified.
- 102 The ends of the detonating cord must be tied fast so that the explosive cannot escape. The articles may be transported as in Division 1.4 Compatibility Group D (1.4D) if all of the conditions specified in § 173.63(a) of this subchapter are met.
- 103 Detonators which will not mass detonate and undergo only limited propagation in the shipping package may be assigned to 1.4B classification code. Mass detonate means that more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one detonator near the center of a shipping package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional detonators in the outside packaging that explode may not exceed 25 grams.
- 105 The word "Agents" may be used instead of "Explosives" when approved by the Associate Administrator.
- 106 The recognized name of the particular explosive may be specified in addition to the type.
- 107 The classification of the substance is expected to vary especially with the particle size and packaging but the border lines have not been experimentally determined; appropriate classifications should be verified following the test procedures in §§ 173.57 and 173.58 of this subchapter.
- 108 Fireworks must be so constructed and packaged that loose pyrotechnic composition will not be present in packages during transportation.
- 109 Rocket motors must be nonpropulsive in transportation unless approved in accordance with § 173.56 of this subchapter. A rocket motor to be considered "nonpropulsive" must be capable of unrestrained burning and must not appreciably move in any direction when ignited by any means.
- 110 Fire extinguishers transported under UN1044 may include installed actuating cartridges (cartridges, power device of Division 1.4C or 1.4S), without changing the classification of Division 2.2, provided the aggregate quantity of deflagrating (propellant) explosives does not exceed 3.2 grams per extinguishing unit.
- 111 Explosive substances of Division 1.1 Compatibility Group A (1.1A) are forbidden for transportation if dry or not desensitized, unless incorporated in a device.
- 113 The sample must be given a tentative approval by an agency or laboratory in accordance with § 173.56 of this subchapter.
- 114 Jet perforating guns, charged, oil well, without detonator may be reclassified to Division 1.4 Compatibility Group D (1.4D) if the following conditions are met:
- The total weight of the explosive contents of the shaped charges assembled in the guns does not exceed 90.5 kg (200 pounds) per vehicle; and
 - The guns are packaged in accordance with Packing Method US 1 as specified in § 173.62 of this subchapter.
- 115 Boosters with detonator, detonator assemblies and boosters with detonators in which the total explosive charge per unit does not exceed 25 g, and which will not mass detonate and undergo only limited propagation in the shipping package may be assigned to 1.4B classification code. Mass detonate means more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one booster near the center of the package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional boosters in the outside packaging that explode may not exceed 25 g.
- 116 Fuzes, detonating may be classed in Division 1.4 if the fuzes do not contain more than 25 g of explosive per fuze and are made and packaged so that they will not cause functioning of other fuzes, explosives or other explosive devices if one of the fuzes detonates in a shipping packaging or in adjacent packages.
- 117 If shipment of the explosive substance is to take place at a time that freezing weather is anticipated, the water contained in the explosive substance must be mixed with denatured alcohol so that freezing will not occur.
- 118 This substance may not be transported under the provisions of Division 4.1 unless specifically authorized by the Associate Administrator.

- 119 This substance, when in quantities of not more than 11.5 kg (25.3 pounds), with not less than 10 percent water, by mass, also may be classed in Division 4.1, provided a negative test result is obtained when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria.
- 120 The phlegmatized substance must be significantly less sensitive than dry PETN.
- 121 This substance, when containing less alcohol, water or phlegmatizer than specified, may not be transported unless approved by the Associate Administrator.
- 123 Any explosives, blasting, type C containing chlorates must be segregated from explosives containing ammonium nitrate or other ammonium salts.
- 125 Lactose or glucose or similar materials may be used as a phlegmatizer provided that the substance contains not less than 90%, by mass, of phlegmatizer. These mixtures may be classified in Division 4.1 when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria (see § 171.7 of this subchapter) and approved by the Associate Administrator. Testing must be conducted on at least three packages as prepared for transport. Mixtures containing at least 98%, by mass, of phlegmatizer are not subject to the requirements of this subchapter. Packages containing mixtures with not less than 90% by mass, of phlegmatizer need not bear a POISON subsidiary risk label.
- 127 Mixtures containing oxidizing and organic materials transported under this entry may not meet the definition and criteria of a Class 1 material. (See § 173.50 of this subchapter.)
- 128 Regardless of the provisions of § 172.101(c)(12), aluminum smelting by-products and aluminum remelting by-products described under this entry, meeting the definition of Class 8, Packing Group II and III may be classed as a Division 4.3 material and transported under this entry. The presence of a Class 8 hazard must be communicated as required by this Part for subsidiary hazards.
- 129 These materials may not be classified and transported unless authorized by the Associate Administrator on the basis of results from Series 2 Test and a Series 6(c) Test from the UN Manual of Tests and Criteria (see § 171.7 of this subchapter) on packages as prepared for transport. The packing group assignment and packaging must be approved by the Associate Administrator for Hazardous Materials Safety on the basis of the criteria in § 173.21 of this subchapter and the package type used for the Series 6(c) test.
- 130 For other than a dry battery specifically covered by another entry in the § 172.101 Table, "Batteries, dry" are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits.
- 131 This material may not be offered for transportation unless approved by the Associate Administrator.
- 132 This entry may only be used for uniform, ammonium nitrate-based fertilizer mixtures, containing nitrogen, phosphate or potash, meeting the following criteria: (1) Contains not more than 70% ammonium nitrate; and (2) Contains not more than 0.4% total combustible, organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material. Fertilizers within these composition limits are only subject to the requirements of this subchapter when transported by aircraft or vessel, and are not subject to the requirements of this subchapter if shown by a trough test, as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.2 (incorporated by reference; see § 171.7 of this subchapter), not to be liable to self-sustaining decomposition.
- 134 This entry only applies to vehicles, machinery and equipment which are powered by wet batteries, sodium batteries, or lithium batteries and which are transported with these batteries installed. Examples of such items are electrically-powered cars, lawn mowers, wheelchairs and other mobility aids. A self-propelled vehicle which also contain an internal combustion engine must be consigned under the entry "Vehicle, flammable gas powered" or "Vehicle, flammable liquid powered", as appropriate.
- 135 The entries "Vehicle, flammable gas powered" or "Vehicle, flammable liquid powered", as appropriate, must be used when internal combustion engines are installed in a vehicle.
- 136 This entry only applies to machinery and apparatus containing hazardous materials as in integral element of the machinery or apparatus. It may not be used to describe machinery or apparatus for which a proper shipping name exists in the § 172.101 Table. Except when approved by the Associate Administrator, machinery or apparatus may only contain hazardous materials for which exceptions are referenced in Column (8) of the § 172.101 Table and are provided in part 173, subpart D, of this subchapter. Hazardous materials shipped under this entry are excepted from the labeling requirements of this subchapter unless offered for transportation or transported by aircraft and are not subject to the placarding requirements of part 172, subpart F, of this subchapter. Orientation markings as described in § 172.312 (a)(2) are required when liquid hazardous materials

may escape due to incorrect orientation. The machinery or apparatus, if unpackaged, or the packaging in which it is contained shall be marked "Dangerous goods in machinery" or "Dangerous goods in apparatus", as appropriate, with the identification number UN3363. For transportation by aircraft, machinery or apparatus may not contain any material forbidden for transportation by passenger or cargo aircraft. The Associate Administrator may except from the requirements of this subchapter, equipment, machinery and apparatus provided:

- a. It is shown that it does not pose a significant risk in transportation;
 - b. The quantities of hazardous materials do not exceed those specified in §173.4 of this subchapter; and
 - c. The equipment, machinery or apparatus conforms with §173.222 of this subchapter.
- 137 Cotton, dry is not subject to the requirements of this subchapter when it is baled in accordance with ISO 8115, "Cotton Bales—Dimensions and Density" to a density of at least 360 kg/m³ (22.4lb/ft³) and it is transported in a freight container or closed transport vehicle.
- 138 Lead compounds which, when mixed in a ratio of 1:1000 with 0.07M (Molar concentration) hydrochloric acid and stirred for one hour at a temperature of 23 °C ±2 °C, exhibit a solubility of 5% or less are considered insoluble.
- 139 Use of the "special arrangement" proper shipping names for international shipments must be made under an IAEA Certificate of Competent Authority issued by the Associate Administrator in accordance with the requirements in §173.471, §173.472, or §173.473 of this subchapter. Use of these proper shipping names for domestic shipments may be made only under a DOT exemption, as defined in, and in accordance with the requirements of subpart B of part 107 of this subchapter.
- 140 This material is regulated only when it meets the defining criteria for a hazardous substance or a marine pollutant. In addition, the column 5 reference is modified to read "III" on those occasions when this material is offered for transportation or transported by highway or rail.
- 141 A toxin obtained from a plant, animal, or bacterial source containing an infectious substance, or a toxin contained in an infectious substance, must be classed as Division 6.2, described as an infectious substance, and assigned to UN 2814 or UN 2900, as appropriate.
- 142 These hazardous materials may not be classified and transported unless authorized by the Associate Administrator. The Associate Administrator will base the authorization on results from Series 2 tests and a Series 6(c) test from the UN Manual

of Tests and Criteria (see §171.7 of this subchapter) on packages as prepared for transport in accordance with the requirements of this subchapter.

- 143 These articles may contain:
- a. Division 2.2 compressed gases, including oxygen;
 - b. Signal devices (Class 1) which may include smoke and illumination signal flares. Signal devices must be packed in plastic or fiberboard inner packagings;
 - c. Electric storage batteries;
 - d. First aid kits; or
 - e. Strike anywhere matches.
- 144 If transported as a residue in an underground storage tank (UST), as defined in 40 CFR 180.12, that has been cleaned and purged or rendered inert according to the American Petroleum Institute (API) Standard 1604 (incorporated by reference; see §171.7 of this subchapter), then the tank and this material are not subject to any other requirements of this subchapter. However, sediments remaining in the tank that meet the definition for a hazardous material are subject to the applicable regulations of this subchapter.
- 145 This entry applies to formulations that neither detonate in the cavitated state nor deflagrate in laboratory testing, show no effect when heated under confinement, exhibit no explosive power, and are thermally stable (self-accelerating decomposition temperature (SADT) at 60 °C (140 °F) or higher for a 50 kg (110.2 lbs.) package). Formulations not meeting these criteria must be transported under the provisions applicable to the appropriate entry in the Organic Peroxide Table in §173.225 of this subchapter.
- 146 This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in §171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
- 147 This entry applies to non-sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and a fuel intended to produce a Type E blasting explosive only after further processing. The mixture typically has the following composition: 60–85% ammonium nitrate; 5–30% water; 2–8% fuel; 0.5–4% emulsifier or thickening agent; 0–10% soluble flame suppressants; and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate. These substances may not be classified and transported unless approved by the Associate Administrator.
- 149 When transported as a limited quantity or a consumer commodity, the maximum

- net capacity specified in §173.150(b)(2) of this subchapter for inner packagings may be increased to 5 L (1.3 gallons).
- 150 This description may be used only for uniform mixtures of fertilizers containing ammonium nitrate as the main ingredient within the following composition limits:
- Not less than 90% ammonium nitrate with not more than 0.2% total combustible, organic material calculated as carbon, and with added matter, if any, that is inorganic and inert when in contact with ammonium nitrate; or
 - Less than 90% but more than 70% ammonium nitrate with other inorganic materials, or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite, and not more than 0.4% total combustible, organic material calculated as carbon; or
 - Ammonium nitrate-based fertilizers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate, and not more than 0.4% total combustible, organic material calculated as carbon such that the sum of the percentage of compositions of ammonium nitrate and ammonium sulphate exceeds 70%.
- 151 If this material meets the definition of a flammable liquid in §173.120 of this subchapter, a FLAMMABLE LIQUID label is also required and the basic description on the shipping paper must indicate the Class 3 subsidiary hazard.
- 153 The following applies to aerosols:
- Division 2.1 applies when the aerosol is flammable according to §173.306(i) of this subchapter.
 - Division 2.2 applies when the contents of the aerosol do not meet the criteria for Division 2.1, or Division 2.3.
 - Division 2.3 gases may not be used in an aerosol dispenser.
 - When the contents are classified as Division 6.1 or Class 8, the aerosol must have a subsidiary risk of Division 6.1 or Class 8.
 - Aerosols with contents meeting the criteria for PG I and PG II for Division 6.1 or Class 8 are forbidden for transportation.
 - Aerosols must meet the definition of aerosols in §171.8 of this subchapter.
- 155 Fish meal or fish scrap may not be transported if the temperature at the time of loading either exceeds 35 °C (95 °F), or exceeds 5 °C (41 °F) above the ambient temperature, whichever is higher.
- 156 Asbestos that is immersed or fixed in a natural or artificial binder material, such as cement, plastic, asphalt, resins or mineral ore, or contained in manufactured products is not subject to the requirements of this subchapter.
- 157 This entry includes hybrid electric vehicles powered by both an internal combustion engine and wet, sodium or lithium batteries, transported with one or more batteries installed. Vehicles containing an internal combustion engine must be described as "Vehicle, flammable gas powered," UN3166, or "Vehicle, flammable liquid powered," UN3166, as appropriate.
- 159 This material must be protected from direct sunshine and kept in a cool, well-ventilated place away from sources of heat.
- 160 This entry applies to articles that are used as life-saving vehicle air bag inflators, air bag modules or seat-belt pretensioners containing Class 1 (explosive) materials or materials of other hazard classes. Air bag inflators and modules must be tested in accordance with Test series 6(c) of Part I of the UN Manual of Tests and Criteria (incorporated by reference; see §171.7 of this subchapter), with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard or thermal effect that would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity. If the air bag inflator unit satisfactorily passes the series 6(c) test, it is not necessary to repeat the test on the air bag module.
- 161 For domestic transport, air bag inflators, air bag modules or seat belt pretensioners that meet the criteria for a Division 1.4G explosive must be transported using the description, "Articles, pyrotechnic for technical purposes," UN0431.
- 162 This material may be transported under the provisions of Division 4.1 only if it is packed so that at no time during transport will the percentage of diluent fall below the percentage that is stated in the shipping description.
- (2) "A" codes. These provisions apply only to transportation by aircraft:
- Code/Special Provisions*
- A1 Single packagings are not permitted on passenger aircraft.
- A2 Single packagings are not permitted on aircraft.
- A3 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.
- A4 Liquids having an inhalation toxicity of Packing Group I are not permitted on aircraft.
- A5 Solids having an inhalation toxicity of Packing Group I are not permitted on passenger aircraft and may not exceed a maximum net quantity per package of 15 kg (33 pounds) on cargo aircraft.
- A6 For combination packagings, if plastic inner packagings are used, they must be

- packed in tightly closed metal receptacles before packing in outer packagings.
- A7 Steel packagings must be corrosion-resistant or have protection against corrosion.
- A8 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.
- A9 For combination packagings, if plastic bags are used, they must be packed in tightly closed metal receptacles before packing in outer packagings.
- A10 When aluminum or aluminum alloy construction materials are used, they must be resistant to corrosion.
- A11 For combination packagings, when metal inner packagings are permitted, only specification cylinders constructed of metals which are compatible with the hazardous material may be used.
- A13 Bulk packagings are not authorized for transportation by aircraft.
- A19 Combination packagings consisting of outer fiber drums or plywood drums, with inner plastic packagings, are not authorized for transportation by aircraft.
- A20 Plastic bags as inner receptacles of combination packagings are not authorized for transportation by aircraft.
- A29 Combination packagings consisting of outer expanded plastic boxes with inner plastic bags are not authorized for transportation by aircraft.
- A30 Ammonium permanganate is not authorized for transportation on aircraft.
- A34 Aerosols containing a corrosive liquid in Packing Group II charged with a gas are not permitted for transportation by aircraft.
- A35 This includes any material which is not covered by any of the other classes but which has an anesthetic, narcotic, noxious or other similar properties such that, in the event of spillage or leakage on an aircraft, extreme annoyance or discomfort could be caused to crew members so as to prevent the correct performance of assigned duties.
- A37 This entry applies only to a material meeting the definition in §171.8 of this subchapter for self-defense spray.
- A51 When transported by cargo-only aircraft, an oxygen generator must conform to the provisions of an approval issued under Special Provision 60 and be contained in a packaging prepared and originally offered for transportation by the approval holder.
- A52 A cylinder containing Oxygen, compressed, may not be loaded into a passenger-carrying aircraft or in an inaccessible cargo location on a cargo-only aircraft unless it is placed in an overpack or outer packaging that conforms to the performance criteria of Air Transport Association (ATA) Specification 300 for Category I shipping containers.
- A53 Refrigerating machines and refrigerating machine components are not subject to the requirements of this subchapter when containing less than 12 kg (26.4 pounds) of a non-flammable gas or when containing 12 L (3 gallons) or less of ammonia solution (UN2672) (see §173.307 of this subchapter).
- A54 Lithium batteries or lithium batteries contained or packed with equipment that exceed the maximum gross weight allowed by Column (9B) of the §172.101 Table may only be transported on cargo aircraft if approved by the Associate Administrator.
- A55 Prototype lithium batteries and cells that are packed with not more than 24 cells or 12 batteries per packaging that have not completed the test requirements in Sub-section 38.3 of the UN Manual of Tests and Criteria (incorporated by reference; see §171.7 of this subchapter) may be transported by cargo aircraft if approved by the Associate Administrator and provided the following requirements are met:
- The cells and batteries must be transported in rigid outer packagings that conform to the requirements of Part 178 of this subchapter at the Packing Group I performance level; and
 - Each cell and battery must be protected against short circuiting, must be surrounded by cushioning material that is non-combustible and non-conductive, and must be individually packed in an inner packaging that is placed inside an outer specification packaging.
- A56 Radioactive material with a subsidiary hazard of Division 4.2, Packing Group I, must be transported in Type B packages when offered for transportation by aircraft. Radioactive material with a subsidiary hazard of Division 2.1 is forbidden from transport on passenger aircraft.
- A81 The quantity limits in columns (9A) and (9B) do not apply to body fluids known to contain or suspected of containing an infectious substance when transported in primary receptacles not exceeding 1,000 mL (34 ounces) and in outer packagings not exceeding 4 L (1 gallon) and packaged in accordance with §173.196 of this subchapter.
- A82 The quantity limits in columns (9A) and (9B) do not apply to human or animal body parts, whole organs or whole bodies known to contain or suspected of containing an infectious substance.
- (3) "B" codes. These provisions apply only to bulk packagings, other than IBCs:
- Code/Special Provisions*
- B1 If the material has a flash point at or above 38 °C (100 °F) and below 93 °C (200 °F),

then the bulk packaging requirements of §173.241 of this subchapter are applicable. If the material has a flash point of less than 38 °C (100 °F), then the bulk packaging requirements of §173.242 of this subchapter are applicable.

- B2 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
- B3 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized.
- B4 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
- B5 Only ammonium nitrate solutions with 35 percent or less water that will remain completely in solution under all conditions of transport at a maximum lading temperature of 116 °C (240 °F) are authorized for transport in the following bulk packagings: MC 307, MC 312, DOT 407 and DOT 412 cargo tanks with at least 172 kPa (25 psig) design pressure. The packaging shall be designed for a working temperature of at least 121 °C (250 °F). Only Specifications MC 304, MC 307 or DOT 407 cargo tank motor vehicles are authorized for transportation by vessel.
- B6 Packagings shall be made of steel.
- B7 Safety relief devices are not authorized on multi-unit tank car tanks. Openings for safety relief devices on multi-unit tank car tanks shall be plugged or blank flanged.
- B8 Packagings shall be made of nickel, stainless steel, or steel with nickel, stainless steel, lead or other suitable corrosion resistant metallic lining.
- B9 Bottom outlets are not authorized.
- B10 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks, and DOT 57 portable tanks are not authorized.
- B11 Tank car tanks must have a test pressure of at least 2,068.5 kPa (300 psig). Cargo and portable tanks must have a design pressure of at least 1,207 kPa (175 psig).
- B13 A nonspecification cargo tank motor vehicle authorized in §173.247 of this subchapter must be at least equivalent in design and in construction to a DOT 406 cargo tank or MC 306 cargo tank (if constructed before August 31, 1995), except as follows:
- Packagings equivalent to MC 306 cargo tanks are excepted from the certification, venting, and emergency flow requirements of the MC 306 specification.
 - Packagings equivalent to DOT 406 cargo tanks are excepted from §§178.345–7(d)(5), circumferential reinforcements; 178.345–10, pressure relief; 178.345–11, outlets; 178.345–14, marking, and 178.345–15, certification.
 - Packagings are excepted from the design stress limits at elevated temperatures, as described in the ASME Code. However, the design stress limits may not exceed 25 percent of the stress, as specified in the Aluminum Association's "Aluminum Standards and Data" (7th Edition June 1982), for 0 temper at the maximum design temperature of the cargo tank.
- B14 Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5 °C (60 °F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet.
- B15 Packagings must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance.
- B16 The lading must be completely covered with nitrogen, inert gas or other inert materials.
- B18 Open steel hoppers or bins are authorized.
- B23 Tanks must be made of steel that is rubber lined or unlined. Unlined tanks must be passivated before being placed in service. If unlined tanks are washed out with water, they must be repassivated prior to return to service. Lading in unlined tanks must be inhibited so that the corrosive effect on steel is not greater than that of hydrofluoric acid of 65 percent concentration.
- B25 Packagings must be made from monel or nickel or monel-lined or nickel-lined steel.
- B26 Tanks must be insulated. Insulation must be at least 100 mm (3.9 inches) except that the insulation thickness may be reduced to 51 mm (2 inches) over the exterior heater coils. Interior heating coils are not authorized. The packaging may not be loaded with a material outside of the packaging's design temperature range. In addition, the material also must be covered with an inert gas or the container must be filled with water to the tank's capacity. After unloading, the residual material also must be covered with an inert gas or the container must be filled with water to the tank's capacity.
- B27 Tanks must have a service pressure of 1,034 kPa (150 psig). Tank car tanks must have a test pressure rating of 1,379 kPa (200 psig). Lading must be blanketed at all times with a dry inert gas at a pressure not to exceed 103 kPa (15 psig).
- B28 Packagings must be made of stainless steel.
- B30 MC 312, MC 330, MC 331 and DOT 412 cargo tanks and DOT 51 portable tanks must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads

for cargo tanks and portable tanks must be the greater of 7.62 mm (0.300 inch) or the thickness required for a tank with a design pressure at least equal to 1.5 times the vapor pressure of the lading at 46 °C (115 °F). In addition, MC 312 and DOT 412 cargo tank motor vehicles must:

- a. Be ASME Code (U) stamped for 100% radiography of all pressure-retaining welds;
- b. Have accident damage protection which conforms with §178.345-8 of this subchapter;
- c. Have a MAWP or design pressure of at least 87 psig; and
- d. Have a bolted manway cover.

B32 MC 312, MC 330, MC 331, DOT 412 cargo tanks and DOT 51 portable tanks must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads for cargo tanks and portable tanks must be the greater of 6.35 mm (0.250 inch) or the thickness required for a tank with a design pressure at least equal to 1.3 times the vapor pressure of the lading at 46 °C (115 °F). In addition, MC 312 and DOT 412 cargo tank motor vehicles must:

- a. Be ASME Code (U) stamped for 100% radiography of all pressure-retaining welds;
- b. Have accident damage protection which conforms with §178.345-8 of this subchapter;
- c. Have a MAWP or design pressure of at least 87 psig; and
- d. Have a bolted manway cover.

B33 MC 300, MC 301, MC 302, MC 303, MC 305, MC 306, and DOT 406 cargo tanks equipped with a 1 psig normal vent used to transport gasoline must conform to table 1 of this Special Provision. Based on the volatility class determined by using ASTM D439 and the Reid vapor pressure (RVP) of the particular gasoline, the maximum lading pressure and maximum ambient temperature permitted during the loading of gasoline may not exceed that listed in table I.

TABLE I—MAXIMUM AMBIENT TEMPERATURE—GASOLINE

| ASTM D439 volatility class | Maximum lading and ambient temperature (see note 1) |
|----------------------------|---|
| A (RVP≤9.0 psia) | 131 °F |
| B (RVP≤10.0 psia) | 124 °F |
| C (RVP≤11.5 psia) | 116 °F |
| D (RVP≤13.5 psia) | 107 °F |
| E (RVP≤15.0 psia) | 100 °F |

Note 1: Based on maximum lading pressure of 1 psig at top of cargo tank.

B35 Tank cars containing hydrogen cyanide may be alternatively marked "Hydrocyanic acid, liquefied" if otherwise conforming to marking requirements in subpart D of this part. Tank cars marked "HYDROCYANIC ACID" prior to October 1, 1991 do not need to be remarked.

B37 The amount of nitric oxide charged into any tank car tank may not exceed 1,379 kPa (200 psig) at 21 °C (70 °F).

B42 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a reclosing pressure relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).

B44 All parts of valves and safety relief devices in contact with lading must be of a material which will not cause formation of acetylides.

B45 Each tank must have a reclosing combination pressure relief device equipped with stainless steel or platinum rupture discs approved by the AAR Tank Car Committee.

B46 The detachable protective housing for the loading and unloading valves of multi-unit tank car tanks must withstand tank test pressure and must be approved by the Associate Administrator.

B47 Each tank may have a reclosing pressure relief device having a start-to-discharge pressure setting of 310 kPa (45 psig).

B48 Portable tanks in sodium metal service may be visually inspected at least once every 5 years instead of being retested hydrostatically. Date of the visual inspection must be stenciled on the tank near the other required markings.

B49 Tanks equipped with interior heater coils are not authorized. Single unit tank car tanks must have a reclosing pressure relief device having a start-to-discharge pressure set at no more than 1551 kPa (225 psig).

B50 Each valve outlet of a multi-unit tank car tank must be sealed by a threaded solid plug or a threaded cap with inert luting or gasket material. Valves must be of stainless steel and the caps, plugs, and valve seats must be of a material that will not deteriorate as a result of contact with the lading.

B52 Notwithstanding the provisions of §173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

B53 Packagings must be made of either aluminum or steel.

B54 Open-top, sift-proof rail cars are also authorized.

B55 Water-tight, sift-proof, closed-top, metal-covered hopper cars, equipped with a

- venting arrangement (including flame arrestors) approved by the Associate Administrator are also authorized.
- B56 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized if the particle size of the hazardous material is not less than 149 microns.
- B57 Class 115A tank car tanks used to transport chloroprene must be equipped with a non-reclosing pressure relief device of a diameter not less than 305 mm (12 inches) with a maximum rupture disc pressure of 310 kPa (45 psig).
- B59 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized provided that the lading is covered with a nitrogen blanket.
- B60 DOT Specification 106A500X multi-unit tank car tanks that are not equipped with a pressure relief device of any type are authorized. For the transportation of phosgene, the outage must be sufficient to prevent tanks from becoming liquid full at 55 °C (130 °F).
- B61 Written procedures covering details of tank car appurtenances, dome fittings, safety devices, and marking, loading, handling, inspection, and testing practices must be approved by the Associate Administrator before any single unit tank car tank is offered for transportation.
- B64 Each single unit tank car tank built after December 31, 1990 must be equipped with a tank head puncture resistance system that conforms to § 179.16 of this subchapter.
- B65 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105A. Each tank car must have a pressure relief device having a start-to-discharge pressure of 15.51 Bar (225 psig). The tank car specification may be marked to indicate a test pressure of 20.68 Bar (300 psig).
- B66 Each tank must be equipped with gas tight valve protection caps. Outage must be sufficient to prevent tanks from becoming liquid full at 55 °C (130 °F). Specification 110A500W tanks must be stainless steel.
- B67 All valves and fittings must be protected by a securely attached cover made of metal not subject to deterioration by the lading, and all valve openings, except safety valve, must be fitted with screw plugs or caps to prevent leakage in the event of valve failure.
- B68 Sodium must be in a molten condition when loaded and allowed to solidify before shipment. Outage must be at least 5 percent at 98 °C (208 °F). Bulk packagings must have exterior heating coils fusion welded to the tank shell which have been properly stress relieved. The only tank car tanks authorized are Class DOT 105 tank cars having a test pressure of 2,069 kPa (300 psig) or greater.
- B69 Dry sodium cyanide or potassium cyanide may be shipped in sift-proof weather-resistant metal covered hopper cars, covered motor vehicles, portable tanks or non-specification bins. Siftproof, water-resistant, fiberboard IBCs are permitted when transported in closed freight containers or transport vehicles. Bins must be approved by the Associate Administrator.
- B70 If DOT 103ANW tank car tank is used: All cast metal in contact with the lading must have 96.7 percent nickel content; and the lading must be anhydrous and free from any impurities.
- B71 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105, 112, 114 or 120.
- B72 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J, 106, or 110.
- B74 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 106, 110, 112J, 114J or 120S.
- B76 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 112J, 114J or 120S. Each tank car must have a reclosing pressure relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).
- B77 Other packaging are authorized when approved by the Associate Administrator.
- B78 Tank cars must have a test pressure of 4.14 Bar (60 psig) or greater and conform to Class 103, 104, 105, 109, 111, 112, 114 or 120. Heater pipes must be of welded construction designed for a test pressure of 500 psig. A 25 mm (1 inch) woven lining of asbestos or other approved material must be placed between the bolster slabbing and the bottom of the tank. If a tank car tank is equipped with a non-reclosing pressure relief device, the rupture disc must be perforated with a 3.2 mm (0.13 inch) diameter hole. If a tank car tank is equipped with a reclosing pressure relief valve, the tank must also be equipped with a vacuum relief valve.
- B80 Each cargo tank must have a minimum design pressure of 276 kPa (40 psig).
- B81 Venting and pressure relief devices for tank car tanks and cargo tanks must be approved by the Associate Administrator.
- B82 Cargo tanks and portable tanks are not authorized.
- B83 Bottom outlets are prohibited on tank car tanks transporting sulfuric acid in concentrations over 65.25 percent.
- B84 Packagings must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance for sulfuric acid or spent sulfuric acid in concentration up to 65.25 percent.
- B85 Cargo tanks must be marked with the name of the lading in accordance with the requirements of § 172.302(b).

B90 Steel tanks conforming or equivalent to ASME specifications which contain solid or semisolid residual motor fuel anti-knock mixture (including rust, scale, or other contaminants) may be shipped by rail freight or highway. The tank must have been designed and constructed to be capable of withstanding full vacuum. All openings must be closed with gasketed blank flanges or vapor tight threaded closures.

B115 Rail cars, highway trailers, roll-on/roll-off bins, or other non-specification bulk packagings are authorized. Packagings must be sift-proof, prevent liquid water from reaching the hazardous material, and be provided with sufficient venting to preclude dangerous accumulation of flammable, corrosive, or toxic gaseous emissions such as methane, hydrogen, and ammonia. The material must be loaded dry.

(4) *Table 1, Table 2, and Table 3—IB Codes, Organic Peroxide IBC Code, and IP Special IBC Packing Provisions.* These provisions apply only to transportation in IBCs. When no IBC code is assigned in the §172.101 Table for a specific proper shipping name, an IBC may be authorized when approved by the Associate Administrator. When only certain types of IBCs are authorized in Table 2 (IBC Code IB52), alternative types of IBCs may be authorized when approved by the Associate Administrator. The letter "Z" shown in the marking code for composite IBCs must be replaced with a capital code letter designation found in §178.702(a)(2) of this subchapter to specify the material used for the outer packaging. Tables 1, 2, and 3 follow:

TABLE 1—IB CODES (IBC CODES)

| IBC Code | Authorized IBCs |
|------------|--|
| IB1 | <i>Authorized IBCs:</i> Metal (31A, 31B and 31N). <i>Additional Requirement:</i> Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130 kPa at 55 °C (1.3 bar at 131 °F) are authorized. |
| IB2 | <i>Authorized IBCs:</i> Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). <i>Additional Requirement:</i> Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130kPa at 55 °C (1.3 bar at 131 °F) are authorized. |
| IB3 | <i>Authorized IBCs:</i> Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). <i>Additional Requirement:</i> Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130 kPa at 55 °C (1.3 bar at 131 °F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 3 for UN2672). |
| IB4 | <i>Authorized IBCs:</i> Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N). |
| IB5 | <i>Authorized IBCs:</i> Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 21HZ1 and 31HZ1). |
| IB6 | <i>Authorized IBCs:</i> Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2). <i>Additional Requirement:</i> Composite IBCs 11HZ2 and 21HZ2 may not be used when the hazardous materials being transported may become liquid during transport. |
| IB7 | <i>Authorized IBCs:</i> Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Wooden (11C, 11D and 11F). |
| IB8 | <i>Additional Requirement:</i> Liners of wooden IBCs must be sift-proof. <i>Authorized IBCs:</i> Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). |
| IB99 | IBCs are only authorized if approved by the Associate Administrator. |

TABLE 2—ORGANIC PEROXIDE IBC CODE (IB52)

| UN No. | Organic peroxide | Type of IBC | Maximum quantity (liters) | Control temperature | Emergency temperature |
|------------|--|-------------|---------------------------|---------------------|-----------------------|
| 3109 | ORGANIC PEROXIDE, TYPE F, LIQUID | | | | |
| | tert-Butyl hydroperoxide, not more than 72% with water. | 31A | 1250 | | |
| | tert-Butyl peroxyacetate, not more than 32% in diluent type A. | 31A | 1250 | | |
| | | 31HA1 | 1000 | | |
| | tert-Butyl peroxy-3,5,5-trimethylhexanoate, not more than 32% in diluent type A. | 31A | 1250 | | |
| | | 31HA1 | 1000 | | |
| | Cumyl hydroperoxide, not more than 90% in diluent type A. | 31HA1 | 1250 | | |
| | Dibenzoyl peroxide, not more than 42% as a stable dispersion. | 31H1 | 1000 | | |

TABLE 2—ORGANIC PEROXIDE IBC CODE (IB52)—Continued

| UN No. | Organic peroxide | Type of IBC | Maximum quantity (liters) | Control temperature | Emergency temperature |
|------------|--|-------------|---------------------------|---------------------|-----------------------|
| 3110 | Dicumyl peroxide, less than or equal to 100%. | 31A | 1250 | | |
| | | 31HA1 | 1000 | | |
| | Di-tert-butyl peroxide, not more than 52% on diluent type B. | 31A | 1250 | | |
| | | 31HA1 | 1000 | | |
| | 1,1-Di-(tert-butylperoxy) cyclohexane, not more than 42% in diluent type A. | 31H1 | 1000 | | |
| | Dilauroyl peroxide, not more than 42%, stable dispersion, in water. | 31HA1 | 1000 | | |
| | Isopropyl cumyl hydroperoxide, not more than 72% in diluent type A. | 31HA1 | 1250 | | |
| | p-Menthyl hydroperoxide, not more than 72% in diluent type A. | 31HA1 | 1250 | | |
| | Peroxyacetic acid, stabilized, not more than 17%. | 31H1 | 1500 | | |
| | | 31HA1 | 1500 | | |
| | | 31A | 1500 | | |
| | Peroxyacetic acid, with not more than 26% hydrogen peroxide. | 31A | 1500 | | |
| | | 31HA1 | 1500 | | |
| | Peroxyacetic acid, type F, stabilized | 31A | 1500 | | |
| | 31HA1 | 1500 | | | |
| 3110 | Organic peroxide type F, solid | 31A | | | |
| | | 31H1 | | | |
| | | 31HA1 | | | |
| 3119 | Dicumyl peroxide, less than or equal to 100%. | 31A | 2000 | | |
| | ORGANIC PEROXIDE, TYPE F, LIQUID, TEMPERATURE CONTROLLED | | | | |
| | tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B. | 31HA1 | 1000 | +30 °C | +35 °C |
| | | 31A | 1250 | +30 °C | +35 °C |
| | tert-Butyl peroxyneodecanoate, not more than 32% in diluent type A. | 31A | 1250 | 0 °C | +10 °C |
| | tert-Butyl peroxyneodecanoate, not more than 42% stable dispersion, in water. | 31A | 1250 | –5 °C | +5 °C |
| | tert-Butyl peroxyvalerate, not more than 27% in diluent type B. | 31HA1 | 1000 | +10 °C | +15 °C |
| | | 31A | 1250 | +10 °C | +15 °C |
| | Cumyl peroxyneodecanoate, not more than 52%, stable dispersion, in water. | 31A | 1250 | –15 °C | –5 °C |
| | Di-(4-tert-butylcyclohexyl) peroxydicarbonate, not more than 42%, stable dispersion, in water. | 31HA1 | 1000 | +30 °C | +35 °C |
| | Dicetyl peroxydicarbonate, not more than 42%, stable dispersion, in water. | 31HA1 | 1000 | +30 °C | +35 °C |
| | Di-(2-ethylhexyl) peroxydicarbonate, not more than 52%, stable dispersion, in water. | 31A | 1250 | –20 °C | –10 °C |
| | Dimyristyl peroxydicarbonate, not more than 42%, stable dispersion, in water. | 31HA1 | 1000 | +15 °C | +20 °C |
| | Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 38% in diluent type A. | 31HA1 | 1000 | +10 °C | +15 °C |
| | | 31A | 1250 | +10 °C | +15 °C |
| | Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 52%, stable dispersion, in water. | 31A | 1250 | +10 °C | +15 °C |
| | 1,1,3,3-Tetramethylbutyl peroxyneodecanoate, not more than 52%, stable dispersion, in water. | 31A | 1250 | –5 °C | +5 °C |

TABLE 3—IP CODES

- IP1 IBCs must be packed in closed freight containers or a closed transport vehicle.
- IP2 When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.
- IP3 Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.
- IP4 Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.
- IP5 IBCs must have a device to allow venting. The inlet to the venting device must be located in the vapor space of the IBC under maximum filling conditions.

TABLE 3—IP CODES—Continued

| | | |
|--|---|-----|
| IP6 | Non-specification bulk bins are authorized. | |
| IP7 | For UN identification numbers 1327, 1363, 1364, 1365, 1386, 1841, 2211, 2217, 2793 and 3314, IBCs are not required to meet the IBC performance tests specified in part 178, subpart N of this subchapter. | |
| IP8 | Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in § 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 °C (131 °F). | |
| (5) "N" codes. These provisions apply only to non-bulk packagings: | | |
| <i>Code/Special Provisions</i> | | |
| N3 | Glass inner packagings are permitted in combination or composite packagings only if the hazardous material is free from hydrofluoric acid. | N12 |
| N4 | For combination or composite packagings, glass inner packagings, other than ampoules, are not permitted. | N20 |
| N5 | Glass materials of construction are not authorized for any part of a packaging which is normally in contact with the hazardous material. | N25 |
| N6 | Battery fluid packaged with electric storage batteries, wet or dry, must conform to the packaging provisions of § 173.159 (g) or (h) of this subchapter. | N32 |
| N7 | The hazard class or division number of the material must be marked on the package in accordance with § 172.302 of this subchapter. However, the hazard label corresponding to the hazard class or division may be substituted for the marking. | N33 |
| N8 | Nitroglycerin solution in alcohol may be transported under this entry only when the solution is packed in metal cans of not more than 1 L capacity each, overpacked in a wooden box containing not more than 5 L. Metal cans must be completely surrounded with absorbent cushioning material. Wooden boxes must be completely lined with a suitable material impervious to water and nitroglycerin. | N34 |
| N10 | Lighters and their inner packagings, which have been approved by the Associate Administrator (see § 173.21(i) of this subchapter), must be packaged in one of the following outer packagings at the Packing Group II level: 4C1 or 4C2 wooden boxes; 4D plywood boxes; 4F reconstituted wood boxes; 4G fiberboard boxes; or 4H1 or 4H2 plastic boxes. The approval number (e.g., T-* * *) must be marked on each outer package and on the shipping paper. | N36 |
| N11 | This material is excepted for the specification packaging requirements of this subchapter if the material is packaged in strong, tight non-bulk packaging meeting the requirements of subparts A and B of part 173 of this subchapter. | N37 |
| | | N40 |
| | | N41 |
| | | N42 |
| | | N43 |
| | | N45 |

- N65 Outage must be sufficient to prevent cylinders or spheres from becoming liquid full at 55 °C (130 °F). The vacant space (outage) may be charged with a nonflammable nonliquefied compressed gas if the pressure in the cylinder or sphere at 55 °C (130 °F) does not exceed 125 percent of the marked service pressure.
- N72 Packagings must be examined by the Bureau of Explosives and approved by the Associate Administrator.
- N73 Packagings consisting of outer wooden or fiberboard boxes with inner glass, metal or other strong containers; metal or fiber drums; kegs or barrels; or strong metal cans are authorized and need not conform to the requirements of part 178 of this subchapter.
- N74 Packages consisting of tightly closed inner containers of glass, earthenware, metal or polyethylene, capacity not over 0.5 kg (1.1 pounds) securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, not over 15 kg (33 pounds) net weight, are authorized and need not conform to the requirements of part 178 of this subchapter.
- N75 Packages consisting of tightly closed inner packagings of glass, earthenware or metal, securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, capacity not over 2.5 kg (5.5 pounds) net weight, are authorized and need not conform to the requirements of part 178 of this subchapter.
- N76 For materials of not more than 25 percent active ingredient by weight, packages consisting of inner metal packagings not greater than 250 mL (8 ounces) capacity each, packed in strong outer packagings together with sufficient absorbent material to completely absorb the liquid contents are authorized and need not conform to the requirements of part 178 of this subchapter.
- N77 For materials of not more than two percent active ingredients by weight, packagings need not conform to the requirements of part 178 of this subchapter, if liquid contents are absorbed in an inert material.
- N78 Packages consisting of inner glass, earthenware, or polyethylene or other non-fragile plastic bottles or jars not over 0.5 kg (1.1 pounds) capacity each, or metal cans not over five pounds capacity each, packed in outer wooden boxes, barrels or kegs, or fiberboard boxes are authorized and need not conform to the requirements of part 178 of this subchapter. Net weight of contents in fiberboard boxes may not exceed 29 kg (64 pounds). Net weight of contents in wooden boxes, barrels or kegs may not exceed 45 kg (99 pounds).
- N79 Packages consisting of tightly closed metal inner packagings not over 0.5 kg (1.1 pounds) capacity each, packed in outer

wooden or fiberboard boxes, or wooden barrels, are authorized and need not conform to the requirements of part 178 of this subchapter. Net weight of contents may not exceed 15 kg (33 pounds).

- N80 Packages consisting of one inner metal can, not over 2.5 kg (5.5 pounds) capacity, packed in an outer wooden or fiberboard box, or a wooden barrel, are authorized and need not conform to the requirements of part 178 of this subchapter.
- N82 See §173.306 of this subchapter for classification criteria for flammable aerosols.
- N83 This material may not be transported in quantities of more than 11.5 kg (25.4 lbs) per package.
- N84 The maximum quantity per package is 500 g (1.1 lbs.).
- N85 Packagings certified at the Packing Group I performance level may not be used.

(6) “R” codes. These provisions apply only to transportation by rail. [Reserved]

(7) “T” codes. (i) These provisions apply to the transportation of hazardous materials in UN and IM Specification portable tanks. Portable tank instructions specify the requirements applicable to a portable tank when used for the transportation of a specific hazardous material. These requirements must be met in addition to the design and construction specifications in part 178 of this subchapter. Portable tank instructions T1 through T22 specify the applicable minimum test pressure, the minimum shell thickness (in reference steel), bottom opening requirements and pressure relief requirements. In T23, the organic peroxides and self-reactive substances which are authorized to be transported in portable tanks are listed along with the applicable control and emergency temperatures. Liquefied compressed gases are assigned to portable tank instruction T50. T50 provides the maximum allowable working pressures, bottom opening requirements, pressure relief requirements and degree of filling requirements for liquefied compressed gases permitted for transport in portable tanks. Refrigerated liquefied gases which are authorized to be transported in portable tanks are specified in tank instruction T75.

(ii) The following table specifies the portable tank requirements applicable to T Codes T1 through T22. Column 1 specifies the T Code. Column 2 specifies

the minimum test pressure, in bar (1 bar = 14.5 psig), at which the periodic hydrostatic testing required by § 180.605 of this subchapter must be conducted. Column 3 specifies the section reference for minimum shell thickness or, alternatively, the minimum shell thickness value. Column 4 specifies the applicability of § 178.275(g)(3) of this

subchapter for the pressure relief devices. When the word "Normal" is indicated, § 178.275(g)(3) of this subchapter does not apply. Column 5 references the applicable requirements for bottom openings in part 178 of this subchapter or references "Prohibited" which means bottom openings are prohibited. The table follows:

TABLE OF PORTABLE TANK T CODER T1–T22

[Portable tank code T1–T22 apply to liquid and solid hazardous materials of Classes 3 through 9 which are transported in portable tanks.]

| Portable tank instruction (1) | Minimum test pressure (bar) (2) | Minimum shell thickness (in mm-reference steel) (See § 178.274(d)) (3) | Pressure-relief requirements (See § 178.275(g)) (4) | Bottom opening requirements (See § 178.275(d)) (5) |
|----------------------------------|------------------------------------|---|--|---|
| T1 | 1.5 | § 178.274(d)(2) | Normal | § 178.275(d)(2). |
| T2 | 1.5 | § 178.274(d)(2) | Normal | § 178.275(d)(3). |
| T3 | 2.65 | § 178.274(d)(2) | Normal | § 178.275(d)(2). |
| T4 | 2.65 | § 178.274(d)(2) | Normal | § 178.275(d)(3). |
| T5 | 2.65 | § 178.274(d)(2) | § 178.275(g)(3) | Prohibited. |
| T6 | 4 | § 178.274(d)(2) | Normal | § 178.275(d)(2). |
| T7 | 4 | § 178.274(d)(2) | Normal | § 178.275(d)(3). |
| T8 | 4 | § 178.274(d)(2) | Normal | Prohibited. |
| T9 | 4 | 6 mm | Normal | Prohibited. |
| T10 | 4 | 6 mm | § 178.275(g)(3) | Prohibited. |
| T11 | 6 | § 178.274(d)(2) | Normal | § 178.275(d)(3). |
| T12 | 6 | § 178.274(d)(2) | § 178.275(g)(3) | § 178.275(d)(3). |
| T13 | 6 | 6 mm | Normal | Prohibited. |
| T14 | 6 | 6 mm | § 178.275(g)(3) | Prohibited. |
| T15 | 10 | § 178.274(d)(2) | Normal | § 178.275(d)(3). |
| T16 | 10 | § 178.274(d)(2) | § 178.275(g)(3) | § 178.275(d)(3). |
| T17 | 10 | 6 mm | Normal | § 178.275(d)(3). |
| T18 | 10 | 6 mm | § 178.275(g)(3) | § 178.275(d)(3). |
| T19 | 10 | 6 mm | § 178.275(g)(3) | Prohibited. |
| T20 | 10 | 8 mm | § 178.275(g)(3) | Prohibited. |
| T21 | 10 | 10 mm | Normal | Prohibited. |
| T22 | 10 | 10 mm | § 178.275(g)(3) | Prohibited. |

(iii) The following table specifies the portable tank requirements applicable to T23 for self-reactive substances of Division 4.1 and organic peroxides of

Division 5.2 which are authorized to be transported in portable tanks:

PORTABLE TANK CODE T23

[Portable tank code T23 applies to self-reactive substances of Division 4.1 and organic peroxides of Division 5.2.]

| UN No. | Hazardous material | Minimum test pressure (bar) | Minimum shell thickness (mm-reference steel) See . . . | Bottom opening requirements See . . . | Pressure-relief requirements See . . . | Filling limits | Control temperature | Emergency temperature |
|--------|--|-----------------------------|---|--|---|------------------------------------|---------------------|-----------------------|
| 3109 | Organic peroxide, Type F, liquid | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | tert-Butyl hydroperoxide, not more than 72% with water. *Provided that steps have been taken to achieve the safety equivalence of 65% tert-Butyl hydroperoxide and 35% water | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | Cumyl hydro-peroxide, not more than 90% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | Dicumyl peroxide, less than or equal to 100% in diluent Type B | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | Di-tert-butyl peroxide, not more than 32% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | Isopropyl cumyl hydro-peroxide, not more than 72% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | p-Menthyl hydro-peroxide, not more than 72% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| | Pinanyl hydro-peroxide, not more than 50% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| 3110 | Organic peroxide, Type F, solid | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |

§ 172.102

49 CFR Ch. I (10-1-03 Edition)

| | | | | | | | | |
|---|--|-----------------|-----------------|-----------------|------------------------------------|------------------------------------|------------------------------|------------------------------|
| | Dicumyl peroxide less than r equal to 100% with inert solids | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| 3119 | Maximum quantity per portable tank 2,000 kg | | | | | | | |
| | Organic peroxide, Type F, liquid, temperature controlled | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | As approved by Assoc. Admin. | As approved by Assoc. Admin. |
| | tert-Butyl peroxyacetate, not more than 32% in diluent Type B | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | +30 °C | +35 °C |
| | tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | +15 °C | +20 °C |
| | tert-Butyl peroxy-pivalate, not more than 27% in diluent Type B | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | +5 °C | +10 °C |
| | tert-Butyl peroxy-3,5,5-trimethyl-hexanoate, not more than 32% in diluent type B | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | +35 °C | +40 °C |
| | Di-(3,5,5-trimethyl-hexanoyl) peroxide, not more than 38% in diluent type A | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | 0 °C | +5 °C |
| Peroxyacetic acid, distilled, stabilized, not more than 41% | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | +30 °C | +35 °C | |
| 3120 | Organic peroxide Type F, solid, temperature controlled | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | As approved by Assoc. Admin | As approved by Assoc. Admin |
| 3229 | Self-reactive liquid Type F | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |
| 3230 | Self-reactive solid Type F | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | | |

PORTABLE TANK CODE T23—Continued

[Portable tank code T23 applies to self-reactive substances of Division 4.1 and organic peroxides of Division 5.2.]

| UN No. | Hazardous material | Minimum test pressure (bar) | Minimum shell thickness (mm-reference steel) See . . . | Bottom opening requirements See . . . | Pressure-relief requirements See . . . | Filling limits | Control temperature | Emergency temperature |
|--------|---|-----------------------------|---|--|---|------------------------------------|------------------------------|------------------------------|
| 3239 | Self-reactive liquid Type F, temperature controlled | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | As approved by Assoc. Admin. | As approved by Assoc. Admin. |
| 3240 | Self-reactive solid Type F, temperature controlled | 4 | § 178.274(d)(2) | § 178.275(d)(3) | § 178.275(g)(1) | Not more than 90% at 59 °F (15 °C) | As approved by Assoc. Admin. | As approved by Assoc. Admin. |

§ 172.102

49 CFR Ch. I (10-1-03 Edition)

(iv) The following portable tank instruction applies to portable tanks used for the transportation of liquefied compressed gases. The T50 table provides the UN identification number and proper shipping name for each liquefied compressed gas authorized to be transported in a T50 portable tank. The table provides maximum allowable working pressures, bottom opening requirements, pressure relief device requirements and degree of filling requirements for each liquefied compressed gases permitted for transportation in a T50 portable tank. In the minimum test pressure column, "small" means a portable tank with a

diameter of 1.5 meters or less when measured at the widest part of the shell, "sunshield" means a portable tank with a shield covering at least the upper third of the shell, "bare" means no sunshield or insulation is provided, and "insulated" means a complete cladding of sufficient thickness of insulating material necessary to provide a minimum conductance of not more than 0.67 w/m²/k. In the pressure relief requirements column, the word "Normal" denotes that a frangible disc as specified in §178.276(e)(3) of this subchapter is not required. The T50 table follows:

PORTABLE TANK CODE T50

[Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.276(e)) | Maximum filling density (kg/l) |
|--------|--|---|-----------------------------|---|--------------------------------|
| 1005 | Ammonia, anhydrous | 29.0 25.7 22.0 19.7 | Allowed | § 178.276(e)(3) | 0.53 |
| 1009 | Bromotrifluoromethane or Refrigerant gas R 13B1. | 38.0 34.0 30.0 27.5 | Allowed | Normal | 1.13 |
| 1010 | Butadienes, stabilized | 7.5 7.0 7.0 7.0 | Allowed | Normal | 0.55 |
| 1011 | Butane | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.51 |
| 1012 | Butylene | 8.0 7.0 7.0 7.0 | Allowed | Normal | 0.53 |
| 1017 | Chlorine | 19.0 17.0 15.0 13.5 | Not Allowed | § 178.276(e)(3) | 1.25 |
| 1018 | Chlorodifluoromethane or Refrigerant gas R 22. | 26.0 24.0 21.0 19.0 | Allowed | Normal | 1.03 |
| 1020 | Chloropentafluoroethane or Refrigerant gas R 115. | 23.0 20.0 18.0 16.0 | Allowed | Normal | 1.06 |
| 1021 | 1-Chloro-1,2,2,2-tetrafluoroethane or Refrigerant gas R 124. | 10.3 9.8 7.9 7.0 | Allowed | Normal | 1.2 |

PORTABLE TANK CODE T50—Continued

[Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.27(e)) | Maximum filling density (kg/l) |
|--------|--|---|-----------------------------|--|--------------------------------|
| 1027 | Cyclopropane | 18.0 16.0 14.5 13.0 | Allowed | Normal | 0.53 |
| 1028 | Dichlorodifluoromethane or Refrigerant gas R 12. | 16.0 15.0 13.0 11.5 | Allowed | Normal | 1.15 |
| 1029 | Dichlorofluoromethane or Refrigerant gas R 21. | 7.0 7.0 7.0 | Allowed | Normal | 1.23 |
| 1030 | 1,1-Difluoroethane or Refrigerant gas R 152a. | 16.0 14.0 12.4 11.0 | Allowed | Normal | 0.79 |
| 1032 | Dimethylamine, anhydrous | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.59 |
| 1033 | Dimethyl ether | 15.5 13.8 12.0 10.6 | Allowed | Normal | 0.58 |
| 1036 | Ethylamine | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.61 |
| 1037 | Ethyl chloride | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.8 |
| 1040 | Ethylene oxide with <i>nitrogen up to a total pressure of 1MPa (10 bar) at 50 °C.</i> | Only authorized in 10 bar insulated portable tanks. | Not allowed | § 178.276(e)(3) | 0.78 |
| 1041 | Ethylene oxide and carbon dioxide mixture <i>with more than 9% but not more than 87% ethylene oxide.</i> | See MAWP definition in § 178.276(a). | Allowed | Normal | See § 173.32(f) |
| 1055 | Isobutylene | 8.1 7.0 7.0 7.0 | Allowed | Normal | 0.52 |
| 1060 | Methyl acetylene and propadiene mixture, stabilized. | 28.0 24.5 22.0 20.0 | Allowed | Normal | 0.43 |
| 1061 | Methylamine, anhydrous | 10.8 9.6 7.8 7.0 | Allowed | Normal | 0.58 |

PORTABLE TANK CODE T50—Continued
 [Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.27(e)) | Maximum filling density (kg/l) |
|--------|--|---|-----------------------------|--|--------------------------------|
| 1062 | Methyl bromide | 7.0 7.0 7.0 7.0 | Not allowed | § 178.276(e)(3) | 1.51 |
| 1063 | Methyl chloride or Refrigerant gas R 40. | 14.5 12.7 11.3 10.0 | Allowed | Normal | 0.81 |
| 1064 | Methyl mercaptan | 7.0 7.0 7.0 7.0 | Not allowed | § 178.276(e)(3) | 0.78 |
| 1067 | Dinitrogen tetroxide | 7.0 7.0 7.0 7.0 | Not allowed | § 178.276(e)(3) | 1.3 |
| 1075 | Petroleum gas, liquefied | See MAWP definition in § 178.276(a). | Allowed | Normal | See § 173.32(f) |
| 1077 | Propylene | 28.0 24.5 22.0 20.0 | Allowed | Normal | 0.43 |
| 1078 | Refrigerant gas, n.o.s. | See MAWP definition in § 178.276(a). | Allowed | Normal | See § 173.32(f) |
| 1079 | Sulphur dioxide | 11.6 10.3 8.5 7.6 | Not allowed | § 178.276(e)(3) | 1.23 |
| 1082 | Trifluorochloroethylene, stabilized or Refrigerant gas R 1113. | 17.0 15.0 13.1 11.6 | Not allowed | § 178.276(e)(3) | 1.13 |
| 1083 | Trimethylamine, anhydrous | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.56 |
| 1085 | Vinyl bromide, stabilized | 7.0 7.0 7.0 7.0 | Allowed | Normal | 1.37 |
| 1086 | Vinyl chloride, stabilized | 10.6 9.3 8.0 7.0 | Allowed | Normal | 0.81 |
| 1087 | Vinyl methyl ether, stabilized | 7.0 7.0 7.0 7.0 | Allowed | Normal | 0.67 |
| 1581 | Chloropicrin and methyl bromide mixture. | 7.0 7.0 7.0 7.0 | Not Allowed | § 178.276(e)(3) | 1.51 |

PORTABLE TANK CODE T50—Continued

[Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.27(e)) | Maximum filling density (kg/l) |
|-------------|---|---|-----------------------------|--|--------------------------------|
| 1582 | Chloropicrin and methyl chloride mixture. | 19.2 16.9 15.1 13.1 | Not allowed | § 178.276(e)(3) | 0.81 |
| 1858 | Hexafluoropropylene compressed or Refrigerant gas R 1216. | 19.2 16.9 15.1 13.1 | Allowed | Normal | 1.11 |
| 1912 | Methyl chloride and methylene chloride mixture. | 15.2, 13.0, 11.6, 10.1. | Allowed | Normal | 0.81 |
| NA 1954 ... | Insecticide gases, <i>flammable</i> , n.o.s.. | See MAWP definition in § 178.276(a). | Allowed | Normal | § 173.32(f) |
| 1958 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane or Refrigerant gas R 114. | 7.0 7.0 7.0 7.0 | Allowed | Normal | 1.3 |
| 1965 | Hydrocarbon gas, mixture liquefied, n.o.s.. | See MAWP definition in 178.276(a). | Allowed | Normal | See § 173.32(f) |
| 1969 | Isobutane | 8.5 7.5 7.0 7.0 | Allowed | Normal | 0.49 |
| 1973 | Chlorodifluoromethane and chloropentafluoroethane mixture with fixed boiling point, with approximately 49% chlorodifluoromethane or Refrigerant gas R502. | 28.3 25.3 22.8 20.3 | Allowed | Normal | 1.05 |
| 1974 | Chlorodifluorobromomethane or Refrigerant gas R 12B1. | 7.4 7.0 7.0 7.0 | Allowed | Normal | 1.61 |
| 1976 | Octafluorocyclobutane or Refrigerant gas RC 318. | 8.8 7.8 7.0 7.0 | Allowed | Normal | 1.34 |
| 1978 | Propane | 22.5 20.4 18.0 16.5 | Allowed | Normal | 0.42 |
| 1983 | 1-Chloro-2,2,2-trifluoroethane or Refrigerant gas R 133a. | 7.0 7.0 7.0 7.0 | Allowed | Normal | 1.18 |
| 2035 | 1,1,1-Trifluoroethane compressed or Refrigerant gas R 143a. | 31.0 27.5 24.2 21.8 | Allowed | Normal | 0.76 |
| 2424 | Octafluoropropane or Refrigerant gas R 218. | 23.1 20.8 18.6 16.6 | Allowed | Normal | 1.07 |

PORTABLE TANK CODE T50—Continued

[Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.27(e)) | Maximum filling density (kg/l) |
|------------|--|---|-----------------------------|--|--------------------------------|
| 2517 | 1-Chloro-1,1-difluoroethane or Refrigerant gas R 142b. | 8.9 7.8 7.0 7.0 | Allowed | Normal | 0.99 |
| 2602 | Dichlorodifluoromethane and difluoroethane azeotropic mixture with approximately 74% dichlorodifluoromethane or Refrigerant gas R 500. | 20.0 18.0 16.0 14.5 | Allowed | Normal | 1.01 |
| 3057 | Trifluoroacetyl chloride | 14.6 12.9 11.3 9.9 | Not allowed | § 178.276(e)(3) ... | 1.17 |
| 3070 | Ethylene oxide and dichlorodifluoromethane mixture with not more than 12.5% ethylene oxide. | 14.0 12.0 11.0 9.0 | Allowed | § 178.276(e)(3) ... | 1.09 |
| 3153 | Perfluoro (methyl vinyl ether) .. | 14.3 13.4 11.2 10.2 | Allowed | Normal | 1.14 |
| 3159 | 1,1,1,2-Tetrafluoroethane or Refrigerant gas R 134a. | 17.7 15.7 13.8 12.1 | Allowed | Normal | 1.04 |
| 3161 | Liquefied gas, flammable, n.o.s.. | See MAWP definition in § 178.276(a). | Allowed | Normal | § 173.32(f) |
| 3163 | Liquefied gas, n.o.s. | See MAWP definition in § 178.276(a). | Allowed | Normal | § 173.32(f) |
| 3220 | Pentafluoroethane or Refrigerant gas R 125. | 34.4 30.8 27.5 24.5 | Allowed | Normal | 0.95 |
| 3252 | Difluoromethane or Refrigerant gas R 32. | 43.0 39.0 34.4 30.5 | Allowed | Normal | 0.78 |
| 3296 | Heptafluoropropane or Refrigerant gas R 227. | 16.0 14.0 12.5 11.0 | Allowed | Normal | 1.2 |
| 3297 | Ethylene oxide and chlorotetrafluoroethane mixture, with not more than 8.8% ethylene oxide. | 8.1 7.0 7.0 7.0 | Allowed | Normal | 1.16 |
| 3298 | Ethylene oxide and pentafluoroethane mixture, with not more than 7.9% ethylene oxide. | 25.9 23.4 20.9 18.6 | Allowed | Normal | 1.02 |

PORTABLE TANK CODE T50—Continued

[Portable tank code T50 applies to liquefied compressed gases.]

| UN No. | Non-refrigerated liquefied compressed gases | Max. allowable working pressure (bar) small; bare; sunshield; insulated | Openings below liquid level | Pressure relief requirements (see § 178.27(e)) | Maximum filling density (kg/l) |
|------------|---|---|-----------------------------|--|--------------------------------|
| 3299 | Ethylene oxide and tetrafluoroethane mixture, with not more than 5.6% ethylene oxide. | 16.7 14.7 12.9 11.2 | Allowed | Normal | 1.03 |
| 3318 | Ammonia solution, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia. | See MAWP definition in 178.276(a). | Allowed | § 178.276(e)(3) ... | § 173.32(f) |
| 3337 | Refrigerant gas R 404A | 31.6 28.3 25.3 22.5 | Allowed | Normal | 0.84 |
| 3338 | Refrigerant gas R 407A | 31.3 28.1 25.1 22.4 | Allowed | Normal | 0.95 |
| 3339 | Refrigerant gas R 407B | 33.0 29.6 26.5 23.6 | Allowed | Normal | 0.95 |
| 3340 | Refrigerant gas R 407C | 29.9 26.8 23.9 21.3 | Allowed | Normal | 0.95 |

(v) When portable tank instruction T75 is referenced in Column (7) of the § 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of § 178.277 of this subchapter.

(vi) *UN and IM portable tank codes/special provisions.* When a specific portable tank instruction is specified by a T Code in Column (7) of the § 172.101 Table for a specific hazardous material, a Specification portable tank conforming to an alternative tank instruction may be used if:

(A) the alternative portable tank has a higher or equivalent test pressure (for example, 4 bar when 2.65 bar is specified);

(B) the alternative portable tank has greater or equivalent wall thickness (for example, 10 mm when 6 mm is specified);

(C) the alternative portable tank has a pressure relief device as specified in the T Code. If a frangible disc is required in series with the reclosing pres-

sure relief device for the specified portable tank, the alternative portable tank must be fitted with a frangible disc in series with the reclosing pressure relief device; and

(D) With regard to bottom openings—

(1) When two effective means are specified, the alternative portable tank is fitted with bottom openings having two or three effective means of closure or no bottom openings; or

(2) When three effective means are specified, the portable tank has no bottom openings or three effective means of closure; or

(3) When no bottom openings are authorized, the alternative portable tank must not have bottom openings.

(vii) When a hazardous material is not assigned a portable tank T Code or TP 9 is referenced in Column (7) of the § 172.101 Table, the hazardous material may only be transported in a portable tank if approved by the Associate Administrator.

(viii) Portable tank special provisions are assigned to certain hazardous

materials to specify requirements that are in addition to those provided by the portable tank instructions or the requirements in part 178 of this subchapter. Portable tank special provisions are designated with the abbreviation TP (tank provision) and are assigned to specific hazardous materials in Column (7) of the §172.101 Table. The following is a list of the portable tank special provisions:

Code/Special Provisions

TP1 The maximum degree of filling must not exceed the degree of filling determined by the following:

$$\left(\text{Degree of filling} = \frac{97}{1 + \alpha(t_r - t_f)} \right).$$

Where:

t_r is the maximum mean bulk temperature during transport, and t_f is the temperature in degrees celsius of the liquid during filling.

TP2 a. The maximum degree of filling must not exceed the degree of filling determined by the following:

$$\left(\text{Degree of filling} = \frac{95}{1 + \alpha(t_r - t_f)} \right).$$

Where:

t_r is the maximum mean bulk temperature during transport,

t_f is the temperature in degrees celsius of the liquid during filling, and

α is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transportation (t_r) both in degrees celsius.

b. For liquids transported under ambient conditions α may be calculated using the formula:

$$\alpha = \frac{d_{15} - d_{50}}{35 d_{50}}$$

Where:

d_{15} and d_{50} are the densities (in units of mass per unit volume) of the liquid at 15 °C (59 °F) and 50 °C (122 °F), respectively.

TP3 For materials transported under elevated temperatures, the maximum degree of filling is determined by the following:

$$\left(\text{Degree of filling} = 95 \frac{d_t}{d_f} \right).$$

Where:

d_t is the density of the material at the maximum mean bulk temperature during transport; and

d_f is the density of the material at the temperature in degrees celsius of the material during filling; and

TP4 The maximum degree of filling for portable tanks must not exceed 90%.

TP5 For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium.

TP6 To prevent the tank from bursting in an event, including fire engulfment (the conditions prescribed in CGA pamphlet S-1.2 (see §171.7 of this subchapter) may be used to consider the fire engulfment condition), it must be equipped with pressure relief devices that are adequate in relation to the capacity of the tank and the nature of the hazardous material transported.

TP7 The vapor space must be purged of air by nitrogen or other means.

TP8 A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 °C (32 °F).

TP9 A hazardous material assigned to special provision TP9 in Column (7) of the §172.101 Table may only be transported in a portable tank if approved by the Associate Administrator.

TP10 The portable tank must be fitted with a lead lining at least 5 mm (0.2 inches) thick. The lead lining must be tested annually to ensure that it is intact and functional. Another suitable lining material may be used if approved by the Associate Administrator.

TP12 This material is considered highly corrosive to steel.

TP13 Self-contained breathing apparatus must be provided when this hazardous material is transported by sea.

TP16 The portable tank must be protected against over and under pressurization which may be experienced during transportation. The means of protection must be approved by the approval agency designated to approve the portable tank in accordance with the procedures in part 107, subpart E, of this subchapter. The pressure relief device must be preceded by a frangible disk in accordance with the requirements in §178.275(g)(3) of this subchapter to prevent crystallization of the product in the pressure relief device.

TP17 Only inorganic non-combustible materials may be used for thermal insulation of the tank.

TP18 The temperature of this material must be maintained between 18 °C (64.4 °F) and 40 °C (104 °F) while in transportation. Portable tanks containing solidified methacrylic acid must not be reheated during transportation.

TP19 The calculated wall thickness must be increased by 3 mm at the time of construction. Wall thickness must be verified ultrasonically at intervals midway between periodic hydraulic tests (every 2.5 years). The portable tank must not be used if the wall thickness is less than that prescribed by the applicable T code in Column (7) of the Table for this material.

TP20 This hazardous material must only be transported in insulated tanks under a nitrogen blanket.

TP21 The wall thickness must not be less than 8 mm. Portable tanks must be hydraulically tested and internally inspected at intervals not exceeding 2.5 years.

TP22 Lubricants for portable tank fittings (for example, gaskets, shut-off valves, flanges) must be oxygen compatible.

TP24 The portable tank may be fitted with a device to prevent the build up of excess pressure due to the slow decomposition of the hazardous material being transported. The device must be in the vapor space when the tank is filled under maximum filling conditions. This device must also prevent an unacceptable amount of leakage of liquid in the case of overturning.

TP25 Sulphur trioxide 99.95% pure and above may be transported in tanks without an inhibitor provided that it is maintained at a temperature equal to or above 32.5 °C (90.5 °F).

TP26 The heating device must be exterior to the shell. For UN 3176, this requirement only applies when the hazardous material reacts dangerously with water.

TP27 A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in §178.275 of this sub-

chapter, where the test pressure is 1.5 times the MAWP.

TP28 A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in §178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

TP29 A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in §178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

TP30 This hazardous material may only be transported in insulated tanks.

TP31 This hazardous material may only be transported in tanks in the solid state.

TP37 IM portable tanks are only authorized for the shipment of hydrogen peroxide solutions in water containing 72% or less hydrogen peroxide by weight. Pressure relief devices shall be designed to prevent the entry of foreign matter, the leakage of liquid and the development of any dangerous excess pressure. In addition, the portable tank must be designed so that internal surfaces may be effectively cleaned and passivated. Each tank must be equipped with pressure relief devices conforming to the following requirements:

| Concentration of hydrogen peroxide solution | Total ¹ |
|---|--------------------|
| 52% or less | 11 |
| Over 52%, but not greater than 60% | 22 |
| Over 60%, but not greater than 72% | 32 |

¹Total venting capacity in standard cubic feet hour (S.C.F.H.) per pound of hydrogen peroxide solution.

TP38 Each portable tank must be insulated with an insulating material so that the overall thermal conductance at 15.5 °C (60 °F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials may not promote corrosion to steel when wet.

TP44 Each portable tank must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads must be the greater of 7.62 mm (0.300 inch) or the thickness required for a portable tank with a design pressure at least equal to 1.5 times the vapor pressure of the hazardous material at 46 °C (115 °F).

TP45 Each portable tank must be made of stainless steel, except that steel other than stainless steel may be used in accordance

with the provisions of 173.24b(b) of this subchapter. Thickness of stainless steel for portable tank shells and heads must be the greater of 6.35 mm (0.250 inch) or the thickness required for a portable tank with a design pressure at least equal to 1.3 times the vapor pressure of the hazardous material at 46 °C (115 °F).

TP46 Portable tanks in sodium metal service are not required to be hydrostatically retested.

(8) “W” codes. These provisions apply only to transportation by water:

Code/Special Provisions

W7 Vessel stowage category for uranyl nitrate hexahydrate solution is “D” as defined in §172.101(k)(4).

W8 Vessel stowage category for pyrophoric thorium metal or pyrophoric uranium metal is “D” as defined in §172.101(k)(4).

W9 When offered for transportation by water, the following Specification packagings are not authorized unless approved by the Associate Administrator: woven plastic bags, plastic film bags, textile bags, paper bags, IBCs and bulk packagings.

W41 When offered for transportation by water, this material must be packaged in bales and be securely and tightly bound with rope, wire or similar means.

[Amdt. 172-123, 55 FR 52582, Dec. 21, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §172.102, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

Subpart C—Shipping Papers

§ 172.200 Applicability.

(a) *Description of hazardous materials required.* Except as otherwise provided in this subpart, each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by this subpart.

(b) This subpart does not apply to any material, other than a hazardous substance, hazardous waste or marine pollutant, that is—

(1) Identified by the letter “A” in column 1 of the §172.101 table, except when the material is offered or intended for transportation by air; or

(2) Identified by the letter “W” in column 1 of the §172.101 table, except when the material is offered or intended for transportation by water; or

(3) An ORM-D, except when the material is offered or intended for transportation by air.

[Amdt. 172-29A, 41 FR 40677, Sept. 20, 1976, as amended by Amdt. 172-58, 45 FR 34697, May 22, 1980; Amdt. 172-74, 47 FR 43065, Sept. 30, 1982; Amdt. 172-112, 53 FR 17160, May 13, 1988; Amdt. 172-127, 57 FR 52938, Nov. 5, 1992]

§ 172.201 Preparation and retention of shipping papers.

(a) *Contents.* When a description of hazardous material is required to be included on a shipping paper, that description must conform to the following requirements:

(1) When a hazardous material and a material not subject to the requirements of this subchapter are described on the same shipping paper, the hazardous material description entries required by §172.202 and those additional entries that may be required by §172.203:

(i) Must be entered first, or

(ii) Must be entered in a color that clearly contrasts with any description on the shipping paper of a material not subject to the requirements of this subchapter, except that a description on a reproduction of a shipping paper may be highlighted, rather than printed, in a contrasting color (the provisions of this paragraph apply only to the basic description required by §172.202(a)(1), (2), (3), and (4)), or

(iii) Must be identified by the entry of an “X” placed before the proper shipping name in a column captioned “HM.” (The “X” may be replaced by “RQ,” if appropriate.)

(2) The required shipping description on a shipping paper and all copies thereof used for transportation purposes, must be legible and printed (manually or mechanically) in English.

(3) Unless it is specifically authorized or required in this subchapter, the required shipping description may not contain any code or abbreviation.

(4) A shipping paper may contain additional information concerning the material provided the information is not inconsistent with the required description. Unless otherwise permitted or required by this subpart, additional information must be placed after the basic description required by §172.202(a).

(b) [Reserved]

(c) *Continuation page.* A shipping paper may consist of more than one page, if each page is consecutively numbered and the first page bears a notation specifying the total number of pages included in the shipping paper. For example, “Page 1 of 4 pages.”

(d) *Emergency response telephone number.* Except as provided in §172.604(c), a shipping paper must contain an emergency response telephone number, as prescribed in subpart G of this part.

(e) Each person who provides a shipping paper must retain a copy of the shipping paper required by §172.200(a), or an electronic image thereof, that is accessible at or through its principal place of business and must make the shipping paper available, upon request, to an authorized official of a Federal, State, or local government agency at reasonable times and locations. For a hazardous waste, the shipping paper copy must be retained for three years after the material is accepted by the initial carrier. For all other hazardous materials, the shipping paper copy must be retained for 375 days after the material is accepted by the initial carrier. Each shipping paper copy must include the date of acceptance by the initial carrier, except that, for rail, vessel, or air shipments, the date on the shipment waybill, airbill, or bill of lading may be used in place of the date of acceptance by the initial carrier. A motor carrier (as defined in §390.5 of Subchapter B of Chapter III of Subtitle B) that uses a shipping paper without change for multiple shipments of a single hazardous material (*i.e.*, one having the same shipping name and identification number) may retain a single copy of the shipping paper, instead of a copy for each shipment made, if the carrier also retains a record of each shipment made, to include shipping name, identification number, quantity transported, and date of shipment.

[Amdt. 172–29A, 41 FR 40677, Sept. 20, 1976]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 172.201, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 172.202 Description of hazardous material on shipping papers.

(a) The shipping description of a hazardous material on the shipping paper must include:

(1) The proper shipping name prescribed for the material in column 2 of the §172.101 table;

(2) The hazard class or division number prescribed for the material, as shown in Column (3) of the §172.101 Table. Except for combustible liquids, the subsidiary hazard class(es) or subsidiary division number(s) must be entered in parentheses immediately following the primary hazard class or division number. The words “Class” or “Division” may be included preceding the primary and subsidiary hazard class or division numbers. The hazard class need not be included for the entry “Combustible liquid, n.o.s.”;

(3) The identification number prescribed for the material as shown in column 4 of the §172.101 table;

(4) The packing group in Roman numerals, as designated for the hazardous material in Column 5 of the §172.101 Table. Class 1 (explosives) materials, self-reactive substances, organic peroxides and entries that are not assigned a packing group are excepted from this requirement. The packing group may be preceded by the letters “PG” (for example, “PG II”); and

(5) The total quantity of hazardous materials covered by the description must be indicated (by mass or volume, or by activity for Class 7 materials) and must include an indication of the applicable unit of measurement. For example, “200 kgs.” or “50 L.” The following provisions also apply:

(i) For Class 1 materials, the quantity must be the net explosive mass.

(ii) For hazardous materials in salvage packaging, an estimate of the total quantity is acceptable.

(iii) The following are excepted from the requirements of paragraph (a)(5) of this section:

(A) Bulk packages, provided some indication of the total quantity is shown, for example, “1 cargo tank” or “2 IBCs.”

(B) Cylinders, provided some indication of the total quantity is shown, for example, “10 cylinders”.

(C) Packages containing only residue.

(6) The number and type of packages must be indicated. The type of packages may be indicated by description and by packaging specification number when applicable (for example, "12 drums", "12 UN 1A1", "15 4G", or "2 UN 3H1 jerricans." Abbreviations may be used for indicating packaging types (for example, cyl. for cylinder), provided the abbreviations are commonly accepted and recognizable.

(b) Except as provided in this subpart, the basic description specified in paragraphs (a)(1), (2), (3) and (4) of this section must be shown in sequence with no additional information interspersed. For example, "Cyclobutyl chloroformate, 6.1, (8,3), UN2744, PG II". Alternatively, the basic description may be shown with the identification (ID) number listed first. For example, "UN2744, Cyclobutyl chloroformate, 6.1, (8, 3), PG II."

(c) The total quantity of the material covered by one description must appear before or after, or both before and after, the description required and authorized by this subpart. The type of packaging and destination marks may be entered in any appropriate manner before or after the basic description. Abbreviations may be used to express units of measurement and types of packagings.

(d) Technical and chemical group names may be entered in parentheses between the proper shipping name and hazard class or following the basic description. An appropriate modifier, such as "contains" or "containing," and/or the percentage of the technical constituent may also be used. For example: "Flammable liquids, n.o.s. (contains Xylene and Benzene), 3, UN 1993, II".

(e) Except for those materials in the UN Recommendations, the ICAO Technical Instructions, or the IMDG Code (see §171.7 of this subchapter), a material that is not a hazardous material according to this subchapter may not be offered for transportation or transported when its description on a shipping paper includes a hazard class or an

identification number specified in the §172.101 Table.

[Amdt. 172-101, 45 FR 74665, Nov. 10, 1980, as amended by Amdt. 172-103, 51 FR 5970, Feb. 18, 1986; Amdt. 172-123, 55 FR 52589, Dec. 21, 1990; 56 FR 66252, Dec. 20, 1991; Amdt. 172-127, 57 FR 52938, Nov. 5, 1992; Amdt. 172-130, 58 FR 51531, Oct. 1, 1993; 66 FR 33425, June 21, 2001; 68 FR 45030, July 31, 2003]

§ 172.203 Additional description requirements.

(a) *Exemptions.* Each shipping paper issued in connection with a shipment made under an exemption must bear the notation "DOT-E" followed by the exemption number assigned and so located that the notation is clearly associated with the description to which the exemption applies.

(b) *Limited quantities.* The description for a material offered for transportation as "limited quantity," as authorized by this subchapter, must include the words "Limited Quantity" or "Ltd Qty" following the basic description.

(c) *Hazardous substances.* (1) Except for Class 7 (radioactive) materials described in accordance with paragraph (d) of this section, if the proper shipping name for a material that is a hazardous substance does not identify the hazardous substance by name, the name of the hazardous substance must be entered in parentheses in association with the basic description. If the material contains two or more hazardous substances, at least two hazardous substances, including the two with the lowest reportable quantities (RQs), must be identified. For a hazardous waste, the waste code (e.g., D001), if appropriate, may be used to identify the hazardous substance.

(2) The letters "RQ" shall be entered on the shipping paper either before or after, the basic description required by §172.202 for each hazardous substance (see definition in §171.8 of this subchapter). For example: "RQ, Allyl alcohol, 6.1, UN 1098, I"; or "Environmentally hazardous substance, solid, n.o.s., 9, UN 3077, III, RQ (Adipic acid)".

(d) *Radioactive material.* The description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate:

(1) The words “RADIOACTIVE MATERIAL” unless these words are contained in the proper shipping name.

(2) The name of each radionuclide in the Class 7 (radioactive) material that is listed in §173.435 of this subchapter. For mixtures of radionuclides, the radionuclides that must be shown must be determined in accordance with §173.433(f) of this subchapter. Abbreviations, e.g., “⁹⁹Mo”, are authorized.

(3) A description of the physical and chemical form of the material, if the material is not in special form (generic chemical description is acceptable for chemical form).

(4) The activity contained in each package of the shipment in terms of the appropriate SI units (e.g., Becquerel, Terabecquerel, etc.) or in terms of the appropriate SI units followed by the customary units (e.g., Curies, millicuries, etc.). Abbreviations are authorized. Except for plutonium-238, plutonium-239, and plutonium-241, the weight in grams or kilograms of fissile radionuclides may be inserted instead of activity units. For plutonium-238, plutonium-239, and plutonium-241 the weight in grams or kilograms of fissile radionuclides may be inserted in addition to the activity units. For the shipment of a package containing a highway route controlled quantity of Class 7 (radioactive) materials (see §173.403 of this subchapter) the words “Highway route controlled quantity” must be entered in association with the basic description.

(5) The category of label applied to each package in the shipment. For example: “RADIOACTIVE WHITE-I.”

(6) The transport index assigned to each package in the shipment bearing RADIOACTIVE YELLOW-II or RADIOACTIVE YELLOW-III labels.

(7) For a shipment of fissile Class 7 (radioactive) materials:

(i) The words “Fissile Excepted” if the package is excepted pursuant to §173.453 of this subchapter;

(ii) For a fissile material, controlled shipment, the additional notation: “Warning—Fissile material, controlled

shipment. Do not load more than * * * packages per vehicle.” (Asterisks to be replaced by appropriate number.) “In loading and storage areas, keep at least 6 m (20 feet) from other packages bearing radioactive labels”; and

(iii) If a fissile material, controlled shipment is to be transported by water, the supplementary notation must also include the following statement: “For shipment by water, only one fissile material, controlled shipment is permitted in each hold.”

(8) For a package approved by the U.S. Department of Energy (DOE) or U.S. Nuclear Regulatory Commission (USNRC), a notation of the package identification marking as prescribed in the applicable DOE or USNRC approval. (See §173.471 of the subchapter.)

(9) For an export shipment or a shipment in a foreign made package, a notation of the package identification marking as prescribed in the applicable International Atomic Energy Agency (IAEA) Certificate of Competent Authority which has been issued for the package. (See §173.473 of the subchapter.)

(10) For a shipment required by this subchapter to be consigned as exclusive use:

(i) An indication that the shipment is consigned as exclusive use; or

(ii) If all the descriptions on the shipping paper are consigned as exclusive use, then the statement “Exclusive Use Shipment” may be entered only once on the shipping paper in a clearly visible location.

(11) For a shipment of low specific activity material or surface contaminated objects, the appropriate group notation of LSA-I, LSA-II, LSA-III, SCO-I, or SCO-II, unless the group notation is contained in the proper shipping name as described in the §172.101 Table.

(e) *Empty packagings.* (1) The description on the shipping paper for a packaging containing the residue of a hazardous material may include the words “RESIDUE: Last Contained * * *” in association with the basic description of the hazardous material last contained in the packaging.

(2) The description on the shipping paper for a tank car containing the residue of a hazardous material must include the phrase, "RESIDUE: LAST CONTAINED * * *" before the basic description.

(f) *Transportation by air.* When a package containing a hazardous material is offered for transportation by air and this subchapter prohibits its transportation aboard passenger-carrying aircraft, the words "Cargo aircraft only" must be entered after the basic description.

(g) *Transportation by rail.* (1) A shipping paper prepared by a rail carrier for a rail car, freight container, transport vehicle or portable tank that contains hazardous materials must include the reporting mark and number when displayed on the rail car, freight container, transport vehicle or portable tank.

(2) The shipping paper for each DOT-113 tank car containing a Division 2.1 material or its residue must contain an appropriate notation, such as "DOT 113", and the statement "Do not hump or cut off car while in motion."

(3) When shipments of elevated temperature materials are transported under the exception permitted in §173.247(h)(3) of this subchapter, the shipping paper must contain an appropriate notation, such as "Maximum operating speed 15 mph."

(h) *Transportation by highway.* Following the basic description for a hazardous material in a Specification MC 330 or MC 331 cargo tank, there must be entered for—

(1) *Anhydrous ammonia.* (i) The words "0.2 PERCENT WATER" to indicate the suitability for shipping anhydrous ammonia in a cargo tank made of quenched and tempered steel as authorized by §173.315(a), Note 14 of this subchapter, or

(ii) The words "NOT FOR Q and T TANKS" when the anhydrous ammonia does not contain 0.2 percent or more water by weight.

(2) *Liquefied petroleum gas.* (i) The word "NONCORROSIVE" or "NONCOR" to indicate the suitability for shipping "Noncorrosive" liquefied petroleum gas in a cargo tank made of quenched and tempered steel as author-

ized by §173.315(a), Note 15 of this subchapter, or

(ii) The words "NOT FOR Q and T TANKS" for grades of liquefied petroleum gas other than "Noncorrosive".

(i) *Transportation by water.* Each shipment by water must have the following additional shipping paper entries:

(1) The name of the shipper.

(2) Minimum flash point if 61 °C or below (in °C closed cup (c.c.) in association with the basic description.

(j) [Reserved]

(k) *Technical names for "n.o.s." and other generic descriptions.* Unless otherwise excepted, if a material is described on a shipping paper by one of the proper shipping names identified by the letter "G" in column (1) of the §172.101 Table, the technical name of the hazardous material must be entered in parentheses in association with the basic description. For example "Corrosive liquid, n.o.s., (Octanoyl chloride), 8, UN 1760, II", or "Corrosive liquid, n.o.s., 8, UN 1760, II (contains Octanoyl chloride)". The word "contains" may be used in association with the technical name, if appropriate. For organic peroxides which may qualify for more than one generic listing depending on concentration, the technical name must include the actual concentration being shipped or the concentration range for the appropriate generic listing. For example, "Organic peroxide type B, solid, 5.2, UN 3102 (dibenzoyl peroxide, 52-100%)" or "Organic peroxide type E, solid, 5.2, UN 3108 (dibenzoyl peroxide, paste, <52%)". Shipping descriptions for toxic materials that meet the criteria of Division 6.1, PG I or II (as specified in §173.132(a) of this subchapter) or Division 2.3 (as specified in §173.115(c) of this subchapter) and are identified by the letter "G" in column (1) of the §172.101 Table, must have the technical name of the toxic constituent entered in parentheses in association with the basic description.

(1) If a hazardous material is a mixture or solution of two or more hazardous materials, the technical names of at least two components most predominately contributing to the hazards of the mixture or solution must be entered on the shipping paper as required by paragraph (k) of this section. For

example, “Flammable liquid, corrosive, n.o.s., 3, UN 2924, II (contains Methanol, Potassium hydroxide)”.

(2) The provisions of this paragraph do not apply—

(i) To a material that is a hazardous waste and described using the proper shipping name “Hazardous waste, liquid *or* solid, n.o.s.”, classed as a miscellaneous Class 9, provided the EPA hazardous waste number is included on the shipping paper in association with the basic description, or provided the material is described in accordance with the provisions of § 172.203(c) of this part.

(ii) To a material for which the hazard class is to be determined by testing under the criteria in § 172.101(c)(11).

(iii) If the n.o.s. description for the material (other than a mixture of hazardous materials of different classes meeting the definitions of more than one hazard class) contains the name of the chemical element or group which is primarily responsible for the material being included in the hazard class indicated.

(iv) If the n.o.s. description for the material (which is a mixture of hazardous materials of different classes meeting the definition of more than one hazard class) contains the name of the chemical element or group responsible for the material meeting the definition of one of these classes. In such cases, only the technical name of the component that is not appropriately identified in the n.o.s. description shall be entered in parentheses.

(1) *Marine pollutants.* (1) If the proper shipping name for a material which is a marine pollutant does not identify by name the component which makes the material a marine pollutant, the name of that component must appear in parentheses in association with the basic description. Where two or more components which make a material a marine pollutant are present, the names of at least two of the components most predominantly contributing to the marine pollutant designation must appear in parentheses in association with the basic description.

(2) The words “Marine Pollutant” shall be entered in association with the basic description for a material which is a marine pollutant.

(3) Except for transportation by vessel, marine pollutants subject to the provisions of 49 CFR 130.11 are excepted from the requirements of paragraph (1) of this section if a phrase indicating the material is an oil is placed in association with the basic description.

(m) *Poisonous materials.* Notwithstanding the hazard class to which a material is assigned—

(1) If a liquid or solid material in a package meets the definition of a Division 6.1, Packing Group I or II, according to this subchapter, and the fact that it is a poison is not disclosed in the shipping name or class entry, the word “‘Poison’ or ‘Toxic’” shall be entered on the shipping paper in association with the shipping description.

(2) For materials which are poisonous by inhalation (see § 171.8 of this subchapter), the words “Poison-Inhalation Hazard” or “Toxic-Inhalation Hazard” and the words “Zone A”, “Zone B”, “Zone C”, or “Zone D”, for gases or “Zone A” or “Zone B” for liquids, as appropriate, shall be entered on the shipping paper immediately following the shipping description. The word “Poison” or “Toxic” need not be repeated if it otherwise appears in the shipping description.

(n) *Elevated temperature materials.* If a liquid material in a package meets the definition of an elevated temperature material in § 171.8 of this subchapter, and the fact that it is an elevated temperature material is not disclosed in the proper shipping name (for example, when the words “Molten” or “Elevated temperature” are part of the proper shipping name), the word “HOT” must immediately precede the proper shipping name of the material on the shipping paper.

(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)(3) of this subchapter) or Division 5.2 (organic peroxide) material (see § 173.225(c)(2) of this subchapter) is offered for transportation or transported.

[Amdt. 172-29A, 41 FR 40677, Sept. 20, 1976]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 172.203, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 172.204 Shipper's certification.

(a) *General.* Except as provided in paragraphs (b) and (c) of this section, each person who offers a hazardous material for transportation shall certify that the material is offered for transportation in accordance with this subchapter by printing (manually or mechanically) on the shipping paper containing the required shipping description the certification contained in paragraph (a)(1) of this section or the certification (declaration) containing the language contained in paragraph (a)(2) of this section.

(1) "This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

NOTE: In line one of the certification the words "herein-named" may be substituted for the words "above-named".

(2) "I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

(b) *Exceptions.* (1) Except for a hazardous waste, no certification is re-

quired for a hazardous material offered for transportation by motor vehicle and transported:

(i) In a cargo tank supplied by the carrier, or

(ii) By the shipper as a private carrier except for a hazardous material that is to be reshipped or transferred from one carrier to another.

(2) No certification is required for the return of an empty tank car which previously contained a hazardous material and which has not been cleaned or purged.

(c) *Transportation by air—(1) General.* Certification containing the following language may be used in place of the certification required by paragraph (a) of this section:

I hereby certify that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and in proper condition for carriage by air according to applicable national governmental regulations.

NOTE TO PARAGRAPH (C)(1): In the certification, the word "packed" may be used instead of the word "packaged" until October 1, 2010.

(2) *Certificate in duplicate.* Each person who offers a hazardous material to an aircraft operator for transportation by air shall provide two copies of the certification required in this section. (See § 175.30 of this subchapter.)

(3) *Passenger and cargo aircraft.* Each person who offers for transportation by air a hazardous material authorized for air transportation shall add to the certification required in this section the following statement:

This shipment is within the limitations prescribed for passenger aircraft/cargo aircraft only (delete nonapplicable).

(4) *Radioactive material.* Each person who offers any radioactive material for transportation aboard a passenger-carrying aircraft shall sign (mechanically or manually) a printed certificate stating that the shipment contains radioactive material intended for use in, or incident to, research, or medical diagnosis or treatment.

(d) *Signature.* The certifications required by paragraph (a) or (c) of this section:

(1) Must be legibly signed by a principal, officer, partner, or employee of the shipper or his agent; and

(2) May be legibly signed manually, by typewriter, or by other mechanical means.

[Amdt. 172-29A, 41 FR 40677, Sept. 20, 1976]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 172.204, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 172.205 Hazardous waste manifest.

(a) No person may offer, transport, transfer, or deliver a hazardous waste (waste) unless an EPA Form 8700-22 and 8700-22A (when necessary) hazardous waste manifest (manifest) is prepared in accordance with 40 CFR 262.20 and is signed, carried, and given as required of that person by this section.

(b) The shipper (generator) shall prepare the manifest in accordance with 40 CFR part 262.

(c) The original copy of the manifest must be dated by, and bear the handwritten signature of, the person representing:

(1) The shipper (generator) of the waste at the time it is offered for transportation, and

(2) The initial carrier accepting the waste for transportation.

(d) A copy of the manifest must be dated by, and bear the handwritten signature of the person representing:

(1) Each subsequent carrier accepting the waste for transportation, at the time of acceptance, and

(2) The designated facility receiving the waste, upon receipt.

(e) A copy of the manifest bearing all required dates and signatures must be:

(1) Given to a person representing each carrier accepting the waste for transportation,

(2) Carried during transportation in the same manner as required by this subchapter for shipping papers,

(3) Given to a person representing the designated facility receiving the waste,

(4) Returned to the shipper (generator) by the carrier that transported the waste from the United States to a foreign destination with a notation of the date of departure from the United States, and

(5) Retained by the shipper (generator) and by the initial and each subsequent carrier for three years from the date the waste was accepted by the initial carrier. Each retained copy must bear all required signatures and dates up to and including those entered by the next person who received the waste.

(f) *Transportation by rail.* Notwithstanding the requirements of paragraphs (d) and (e) of this section, the following requirements apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the non-rail transporter;

(iii) Forward at least three copies of the manifest to:

(A) The next non-rail transporter, if any;

(B) The designated facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States; and

(iv) Retain one copy of the manifest and rail shipping paper in accordance with 40 CFR 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification and signatures) and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste at all times. Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with 40 CFR 263.22.

(4) When delivering hazardous waste to a non-rail transporter, a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with 40 CFR 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) The person delivering a hazardous waste to an initial rail carrier shall send a copy of the manifest, dated and signed by a representative of the rail carrier, to the person representing the designated facility.

(h) A hazardous waste manifest required by 40 CFR part 262, containing all of the information required by this subpart, may be used as the shipping paper required by this subpart.

[Amdt. 172-58, 45 FR 34698, May 22, 1980, as amended by Amdt. 172-90, 49 FR 10510, Mar. 20, 1984; 49 FR 11184, Mar. 26, 1984; Amdt. 172-248, 61 FR 28675, June 5, 1996]

Subpart D—Marking

§ 172.300 Applicability.

(a) Each person who offers a hazardous material for transportation shall mark each package, freight container, and transport vehicle containing the hazardous material in the manner required by this subpart.

(b) When assigned the function by this subpart, each carrier that transports a hazardous material shall mark each package, freight container, and transport vehicle containing the hazardous material in the manner required by this subpart.

[Amdt. 172-101, 45 FR 74666, Nov. 10, 1980]

§ 172.301 General marking requirements for non-bulk packagings.

(a) *Proper shipping name and identification number.* (1) Except as otherwise provided by this subchapter, each person who offers a hazardous material for transportation in a non-bulk packaging must mark the package with the proper shipping name and identification number (preceded by “UN” or “NA,” as

appropriate) for the material as shown in the §172.101 Table. Identification numbers are not required on packagings that contain only ORM-D materials or limited quantities, as defined in §171.8 of this subchapter, except for limited quantities marked in accordance with the marking requirements in §172.315.

(2) The proper shipping name for a hazardous waste (as defined in §171.8 of this subchapter) is not required to include the word “waste” if the package bears the EPA marking prescribed by 40 CFR 262.32.

(3) *Large quantities of a single hazardous material in non-bulk packages.* A transport vehicle or freight container containing only a single hazardous material in non-bulk packages must be marked, on each side and each end as specified in the §172.332 or §172.336, with the identification number specified for the hazardous material in the §172.101 Table, subject to the following provisions and limitations:

(i) Each package is marked with the same proper shipping name and identification number;

(ii) The aggregate gross weight of the hazardous material is 4,000 kg (8,820 pounds) or more;

(iii) All of the hazardous material is loaded at one loading facility;

(iv) The transport vehicle or freight container contains no other material, hazardous or otherwise; and

(v) The identification number marking requirement of this paragraph (a)(3) does not apply to Class 1, Class 7, or to non-bulk packagings for which identification numbers are not required.

(b) *Technical names.* In addition to the marking required by paragraph (a) of this section, each non-bulk packaging containing hazardous materials subject to the provisions of §172.203(k) of this part shall be marked with the technical name in parentheses in association with the proper shipping name in accordance with the requirements and exceptions specified for display of technical descriptions on shipping papers in §172.203(k) of this part.

(c) *Exemption packagings.* The outside of each package authorized by an exemption shall be plainly and durably marked “DOT-E” followed by the exemption number assigned.

(d) *Consignee's or consignor's name and address.* Each person who offers for transportation a hazardous material in a non-bulk package shall mark that package with the name and address of the consignor or consignee except when the package is—

(1) Transported by highway only and will not be transferred from one motor carrier to another; or

(2) Part of a carload lot, truckload lot or freight container load, and the entire contents of the rail car, truck or freight container are shipped from one consignor to one consignee.

(e) *Previously marked packagings.* A package which has been previously marked as required for the material it contains and on which the marking remains legible, need not be remarked. (For empty packagings, see §173.29 of this subchapter.)

[Amdt. 172–123, 55 FR 52590, Dec. 21, 1990, as amended by Amdt. 172–151, 62 FR 1227, Jan. 8, 1997; 62 FR 39404, July 22, 1997; 63 FR 16075, Apr. 1, 1998; 66 FR 45182, Aug. 28, 2001; 68 FR 45030, July 31, 2003]

§ 172.302 General marking requirements for bulk packagings.

(a) *Identification numbers.* Except as otherwise provided in this subpart, no person may offer for transportation or transport a hazardous material in a bulk packaging unless the packaging is marked as required by §172.332 with the identification number specified for the material in the §172.101 table—

(1) On each side and each end, if the packaging has a capacity of 3,785 L (1,000 gallons) or more;

(2) On two opposing sides, if the packaging has a capacity of less than 3,785 L (1,000 gallons); or

(3) For cylinders permanently installed on a tube trailer motor vehicle, on each side and each end of the motor vehicle.

(b) *Size of markings.* Except as otherwise provided, markings required by this subpart on bulk packagings must—

(1) Have a width of at least 6.0 mm (0.24 inch) and a height of at least 100 mm (3.9 inches) for rail cars;

(2) Have a width of at least 4.0 mm (0.16 inch) and a height of at least 25 mm (one inch) for portable tanks with

capacities of less than 3,785 L (1,000 gallons) and IBCs; and

(3) Have a width of at least 6.0 mm (0.24 inch) and a height of at least 50 mm (2.0 inches) for cargo tanks and other bulk packagings.

(c) *Exemption packagings.* The outside of each bulk package used under the terms of an exemption shall be plainly and durably marked “DOT-E” followed by the exemption number assigned.

(d) Each bulk packaging marked with a proper shipping name, common name or identification number as required by this subpart must remain marked when it is emptied unless it is—

(1) Sufficiently cleaned of residue and purged of vapors to remove any potential hazard; or

(2) Refilled, with a material requiring different markings or no markings, to such an extent that any residue remaining in the packaging is no longer hazardous.

(e) Additional requirements for marking portable tanks, cargo tanks, tank cars, multi-unit tank car tanks, and other bulk packagings are prescribed in §§172.326, 172.328, 172.330, and 172.331, respectively, of this subpart.

(f) A bulk packaging marked prior to October 1, 1991, in conformance to the regulations of this subchapter in effect on September 30, 1991, need not be remarked if the key words of the proper shipping name are identical to those currently specified in the §172.101 table. For example, a tank car marked “ANHYDROUS AMMONIA” need not be remarked “ANHYDROUS AMMONIA, LIQUEFIED”.

(g) A rail car, freight container, truck body or trailer in which the lading has been fumigated with any hazardous material, or is undergoing fumigation, must be marked as specified in §173.9 of this subchapter.

[Amdt. 172–123, 55 FR 52591, Dec. 21, 1990, as amended at 56 FR 66254, Dec. 20, 1991; Amdt. 172–150, 61 FR 50624, Sept. 26, 1996; Amdt. 172–151, 62 FR 1228, Jan. 8, 1997; 62 FR 39398, July 22, 1997; 66 FR 45379, Aug. 28, 2001]

§ 172.303 Prohibited marking.

(a) No person may offer for transportation or transport a package which is marked with the proper shipping name or identification number of a hazardous material unless the package contains

the identified hazardous material or its residue.

(b) This section does not apply to—

(1) Transportation of a package in a transport vehicle or freight container if the package is not visible during transportation and is loaded by the shipper and unloaded by the shipper or consignee.

(2) Markings on a package which are securely covered in transportation.

(3) The marking of a shipping name on a package when the name describes a material not regulated under this subchapter.

[Amdt. 172-123, 55 FR 52591, Dec. 21, 1990, as amended at 56 FR 66254, Dec. 20, 1991]

§ 172.304 Marking requirements.

(a) The marking required in this subpart—

(1) Must be durable, in English and printed on or affixed to the surface of a package or on a label, tag, or sign.

(2) Must be displayed on a background of sharply contrasting color;

(3) Must be unobscured by labels or attachments; and

(4) Must be located away from any other marking (such as advertising) that could substantially reduce its effectiveness.

(b) [Reserved]

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29B, 41 FR 57067, Dec. 30, 1976]

§ 172.306 [Reserved]

§ 172.308 Authorized abbreviations.

(a) Abbreviations may not be used in a proper shipping name marking except as authorized in this section.

(b) The abbreviation “ORM” may be used in place of the words “Other Regulated Material.”

(c) Abbreviations which appear as authorized descriptions in column 2 of the

§ 172.101 table (e.g., “TNT” and “PCB”) are authorized.

[Amdt. 172-123, 55 FR 52591, Dec. 21, 1990, as amended by Amdt. 172-145, 60 FR 49110, Sept. 21, 1995]

§ 172.310 Class 7 (radioactive) materials.

In addition to any other markings required by this subpart, each package containing Class 7 (radioactive) materials must be marked as follows:

(a) Each package with a gross mass greater than 50 kg (110 pounds) must have its gross mass marked on the outside of the package.

(b) Each packaging must be marked on the outside of the package, in letters at least 13 mm (0.5 inch) high, with the words “TYPE A” or “TYPE B” as appropriate. A packaging which does not conform to Type A or Type B requirements may not be so marked.

(c) Each Type B, Type B(U) or Type B(M) packaging must be marked on the outside of the package with a radiation symbol that conforms to the requirements of appendix B to part 172.

(d) Each package destined for export shipment must also be marked “USA” in conjunction with the specification marking, or other package certificate identification. (See §§ 173.471, 173.472, and 173.473 of this subchapter).

[Amdt 172-143, 60 FR 50304, Sept. 28, 1995, as amended by 172-143, 61 FR 20749, May 8, 1996; 65 FR 58626, Sept. 29, 2000; 66 FR 45379, Aug. 28, 2001]

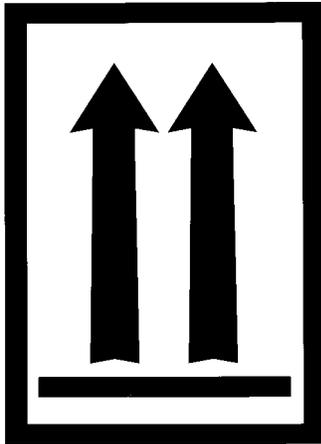
§ 172.312 Liquid hazardous materials in non-bulk packagings.

(a) Except as provided in this section, each non-bulk combination package having inner packagings containing liquid hazardous materials must be:

(1) Packed with closures upward, and

(2) Legibly marked, with package orientation markings that conform pictorially to the illustration shown in this paragraph, on two opposite vertical sides of the package with the arrows pointing in the correct upright

direction. Depicting a rectangular border around the arrows is optional.



Package orientation

(b) Arrows for purposes other than indicating proper package orientation may not be displayed on a package containing a liquid hazardous material.

(c) The requirements of paragraph (a) of this section do not apply to—

(1) A non-bulk package with inner packagings which are cylinders.

(2) Except when offered or intended for transportation by aircraft, packages containing flammable liquids in inner packagings of 1 L or less prepared in accordance with §173.150 (b) or (c) of this subchapter.

(3) When offered or intended for transportation by aircraft, packages containing flammable liquids in inner packagings of 120 mL (4 fluid oz.) or less prepared in accordance with §173.150 (b) or (c) of this subchapter when packed with sufficient absorption material between the inner and outer packagings to completely absorb the liquid contents.

(4) Liquids contained in manufactured articles (e.g., alcohol or mercury in thermometers) which are leak-tight in all orientations.

(5) A non-bulk package with hermetically-sealed inner packagings.

(6) Packages containing liquid infectious substances in primary receptacles not exceeding 50 ml (1.7 oz.).

[Amdt. 172-123, 55 FR 52591, Dec. 21, 1990, as amended at 56 FR 66254, Dec. 20, 1991; 57 FR 45458, Oct. 1, 1992; 64 FR 51918, Sept. 27, 1999; 66 FR 45379, Aug. 28, 2001; 68 FR 45030, July 31, 2003]

§ 172.313 Poisonous hazardous materials.

In addition to any other markings required by this subpart:

(a) A material poisonous by inhalation (see §171.8 of this subchapter) shall be marked "Inhalation Hazard" in association with the required labels or placards, as appropriate, and shipping name when required. The marking must be on two opposing sides of a bulk packaging. (See §172.302(b) of this subpart for size of markings on bulk packages.) When the words "Inhalation Hazard" appear on the label, as prescribed in §§172.416 and 172.429, or placard, as prescribed in §§172.540 and 172.555, the "Inhalation Hazard" marking is not required on the package.

(b) Each non-bulk plastic outer packaging used as a single or composite packaging for materials meeting the definition of Division 6.1 (in §173.132 of this subchapter) shall be permanently marked, by embossment or other durable means, with the word "POISON" in letters at least 6.3 mm (0.25 inch) in height. Additional text or symbols related to hazard warning may be included in the marking. The marking shall be located within 150 mm (6 inches) of the closure of the packaging.

(c) A transport vehicle or freight container containing a material poisonous by inhalation in non-bulk packages shall be marked, on each side and each end as specified in §172.332 or §172.336, with the identification number specified for the hazardous material in the §172.101 table, subject to the following provisions and limitations:

(1) The material is in Hazard Zone A or B;

(2) The transport vehicle or freight container is loaded at one facility with 1,000 kg (2,205 pounds) or more aggregate gross weight of the material in non-bulk packages marked with the same proper shipping name and identification number; and

(3) If the transport vehicle or freight container contains more than one material meeting the provisions of this paragraph (c), it shall be marked with the identification number for one material, determined as follows:

(i) For different materials in the same hazard zone, with the identification number of the material having the greatest aggregate gross weight; and

(ii) For different materials in both Hazard Zones A and B, with the identification number for the Hazard Zone A material.

(d) For a packaging containing a Division 6.1 PG III material, "PG III" may be marked adjacent to the POISON label. (See §172.405(c).)

[Amdt. 172-123, 55 FR 52592, Dec. 21, 1990, as amended at 57 FR 46624, Oct. 9, 1992; Amdt. 172-151, 62 FR 1228, Jan. 8, 1997; 62 FR 39398, 39405, July 22, 1997; 63 FR 16075, Apr. 1, 1998; 64 FR 10776, Mar. 5, 1999]

§172.315 Packages containing limited quantities.

Except as otherwise provided in this subchapter, a package containing a limited quantity of hazardous materials is not required to be marked with the proper shipping name provided it is marked with the identification (ID) number, preceded by the letters "UN" or "NA," as applicable, for the entry as shown in the §172.101 Table, and placed within a square-on-point border in accordance with the following:

(a) The ID number marking must be durable, legible and of such a size relative to the package as to be readily visible. The width of line forming the square-on-point must be at least 2 mm and the height of the ID number must be at least 6 mm. The marking must be applied on at least one side or one end of the outer packaging.

(b) When two or more hazardous materials with different ID numbers are contained in the package, the packaging must be marked with either individual square-on-points bearing a single ID number, or a single square-on-point large enough to include each applicable ID number.

[68 FR 45030, July 31, 2003]

§172.316 Packagings containing materials classed as ORM-D.

(a) Each non-bulk packaging containing a material classed as ORM-D must be marked on at least one side or end with the ORM-D designation immediately following or below the proper shipping name of the material. The ORM designation must be placed within a rectangle that is approximately 6.3 mm (0.25 inches) larger on each side than the designation. The designation for ORM-D must be:

(1) ORM-D-AIR for an ORM-D that is prepared for air shipment and packaged in accordance with the provisions of §173.27 of this subchapter.

(2) ORM-D for an ORM-D other than as described in paragraph (a)(1) of this section.

(b) When the ORM-D marking including the proper shipping name can not be affixed on the package surface, it may be on an attached tag.

(c) The marking ORM-D is the certification by the person offering the packaging for transportation that the material is properly described, classed, packaged, marked and labeled (when appropriate) and in proper condition for transportation according to the applicable regulations of this subchapter. This form of certification does not preclude the requirement for a certificate on a shipping paper when required by subpart C of this part.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-123, 55 FR 52592, Dec. 21, 1990; 56 FR 66254, Dec. 20, 1991]

§172.320 Explosive hazardous materials.

(a) Except as otherwise provided in paragraphs (b), (c), (d) and (e) of this section, each package containing a Class 1 material must be marked with the EX-number for each substance, article or device contained therein.

(b) Except for fireworks approved in accordance with §173.56(j) of this subchapter, a package of Class 1 materials may be marked, in lieu of the EX-number required by paragraph (a) of this section, with a national stock number issued by the Department of Defense or identifying information, such as a product code required by regulations for commercial explosives specified in 27 CFR part 55, if the national stock

number or identifying information can be specifically associated with the EX-number assigned.

(c) When more than five different Class 1 materials are packed in the same package, the package may be marked with only five of the EX-numbers, national stock numbers, product codes, or combination thereof.

(d) The requirements of this section do not apply if the EX-number, product code or national stock number of each explosive item described under a proper shipping description is shown in association with the shipping description required by §172.202(a) of this part. Product codes and national stock numbers must be traceable to the specific EX-number assigned by the Associate Administrator.

(e) The requirements of this section do not apply to the following Class 1 materials:

(1) Those being shipped to a testing agency in accordance with §173.56(d) of this subchapter;

(2) Those being shipped in accordance with §173.56(e) of this subchapter, for the purposes of developmental testing;

(3) Those which meet the requirements of §173.56(h) of this subchapter and therefore are not subject to the approval process of §173.56 of this subchapter;

(4) Until October 1, 1993, those which are shipped under §171.19 of this subchapter; and

(5) Those that are transported in accordance with §173.56(c)(2) of this subchapter and, therefore, are covered by a national security classification currently in effect.

[Amdt. 172-123, 56 FR 66254, Dec. 20, 1991, as amended by Amdt. 172-139, 59 FR 67487, Dec. 29, 1994; 66 FR 45379, Aug. 28, 2001]

§ 172.321 Air eligibility mark.

(a) *General.* Except as otherwise specified in this subchapter, each person who offers for transportation by aircraft a hazardous material in a non-bulk package must mark the package as required by this section to indicate that it meets the applicable requirements for air transport. The marking is a certification that the person offering the package for transportation has determined that it meets the air trans-

port requirements of this subchapter; such as, the package is authorized and properly marked and labeled, its contents are properly classed and within quantity limits for air transport, and it conforms to all relevant packaging provisions such as those pertaining to closures, compatibility, pressure differential, and use of absorbent materials.

(b) *Location and design.* The marking must—

(1) Be placed adjacent to the markings prescribed in §172.301(a);

(2) Be durable, legible and of a size relative to the package so as to be readily visible;

(3) Include an aircraft within a circle and may include the words “Air Eligible” in conjunction with the mark, such as:



Air Eligible

(c) *Exceptions from the air eligibility mark.* The air eligibility mark is not required for—

(1) Packages that are transported in accordance with the small quantity exceptions in §173.4 of this subchapter;

(2) Packages that contain solid carbon dioxide (dry ice) and no other materials subject to the requirements of this subchapter;

(3) Except when overpacked, hazardous materials contained in articles that are not required to be packaged according to the requirements of this subchapter.

(4) Cylinders, except for those which are required to be overpacked or placed in an outer packaging, in which case the overpack or outer packaging must be marked with the air eligibility marking; and

(5) Packages or articles which are excepted from the marking requirements of this subchapter (for example, non-spillable batteries, vehicles); and

(d) *Prohibited display.* The air eligibility marking may not appear on a

package containing a hazardous material which does not meet the requirements of this subchapter for air transport.

[68 FR 45031, July 31, 2003]

§ 172.322 Marine pollutants.

(a) For vessel transportation of each non-bulk packaging that contains a marine pollutant—

(1) If the proper shipping name for a material which is a marine pollutant does not identify by name the component which makes the material a marine pollutant, the name of that component must be marked on the package in parentheses in association with the marked proper shipping name. Where two or more components which make a material a marine pollutant are present, the names of at least two of the components most predominantly contributing to the marine pollutant designation must appear in parentheses in association with the marked proper shipping name; and

(2) The MARINE POLLUTANT mark shall be placed in association with the hazard warning labels required by subpart E of this part or, in the absence of any labels, in association with the marked proper shipping name.

(b) A bulk packaging that contains a marine pollutant must—

(1) Be marked with the MARINE POLLUTANT mark on at least two opposing sides or two ends other than the bottom if the packaging has a capacity of less than 3,785 L (1,000 gallons). The mark must be visible from the direction it faces. The mark may be displayed in black lettering on a square-on-point configuration having the same outside dimensions as a placard; or

(2) Be marked on each end and each side with the MARINE POLLUTANT mark if the packaging has a capacity of 3,785 L (1,000 gallons) or more. The mark must be visible from the direc-

tion it faces. The mark may be displayed in black lettering on a square-on-point configuration having the same outside dimensions as a placard.

(c) A transport vehicle or freight container that contains a package subject to the marking requirements of paragraph (a) or (b) of this section must be marked with the MARINE POLLUTANT mark. The mark must appear on each side and each end of the transport vehicle or freight container, and must be visible from the direction it faces. This requirement may be met by the marking displayed on a freight container or portable tank loaded on a motor vehicle or rail car. This mark may be displayed in black lettering on a white square-on-point configuration having the same outside dimensions as a placard.

(d) The MARINE POLLUTANT mark is not required—

(1) On a combination package containing a severe marine pollutant (see appendix B to § 172.101), in inner packagings each of which contains:

(i) 0.5 L (17 ounces) or less net capacity for liquids; or

(ii) 500 g (17.6 ounces) or less net capacity for solids.

(2) On a combination packaging containing a marine pollutant, other than a severe marine pollutant, in inner packagings each of which contains:

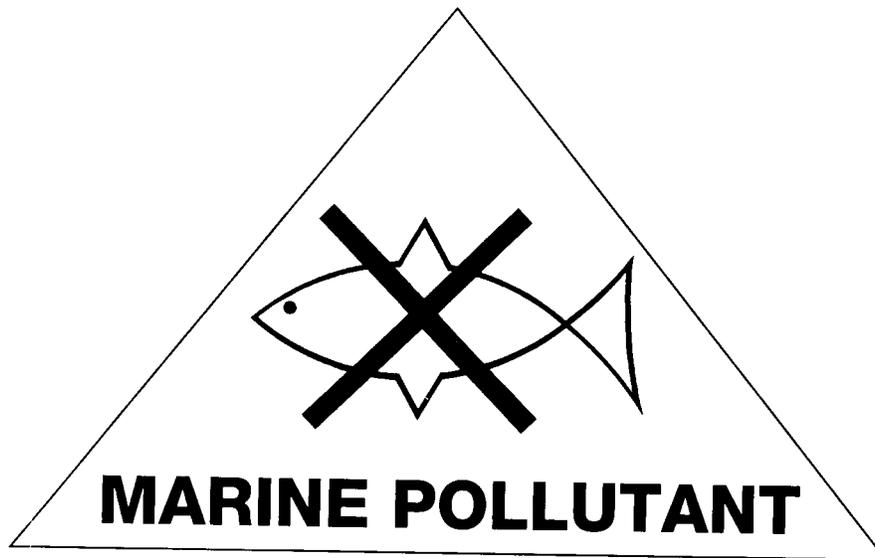
(i) 5 L (1.3 gallons) or less net capacity for liquids; or

(ii) 5 kg (11 pounds) or less net capacity for solids.

(3) Except for transportation by vessel, on a bulk packaging, freight container or transport vehicle that bears a label or placard specified in subparts E or F of this part.

(e) *MARINE POLLUTANT mark.* The MARINE POLLUTANT mark must conform to the following:

(1) Except for size, the MARINE POLLUTANT mark must appear as follows:



(2) The symbol, letters and border must be black and the background white, or the symbol, letters, border and background must be of contrasting color to the surface to which the mark is affixed. Each side of the mark must be—

(i) At least 100 mm (3.9 inches) for marks applied to:

(A) Non-bulk packagings, except in the case of packagings which, because of their size, can only bear smaller marks; or

(B) Bulk packagings with a capacity of less than 3785 L (1,000 gallons); or

(ii) At least 250 mm (9.8 inches) for marks applied to all other bulk packagings.

[Amdt. 172-127, 57 FR 52938, Nov. 5, 1992, as amended by Amdt. 172-136, 59 FR 38064, July 26, 1994; Amdt. 172-145, 60 FR 49110, Sept. 21, 1995; 66 FR 45379, Aug. 28, 2001]

§ 172.323 Infectious substances.

(a) In addition to other requirements of this subpart, after September 30, 2003, a bulk packaging containing a regulated medical waste, as defined in § 173.134(a)(5) of this subchapter, must be marked with a BIOHAZARD mark-

ing conforming to 29 CFR 1910.1030(g)(1)(i)—

(1) On two opposing sides or two ends other than the bottom if the packaging has a capacity of less than 3,785 L (1,000 gallons). The BIOHAZARD marking must measure at least 152.4 mm (6 inches) on each side and must be visible from the direction it faces.

(2) On each end and each side if the packaging has a capacity of 3,785 L (1,000 gallons) or more. The BIOHAZARD marking must measure at least 152.4 mm (6 inches) on each side and must be visible from the direction it faces.

(b) For a bulk packaging contained in or on a transport vehicle or freight container, if the BIOHAZARD marking on the bulk packaging is not visible, the transport vehicle or freight container must be marked as required by paragraph (a) of this section on each side and each end.

(c) The background color for the BIOHAZARD marking required by paragraph (a) of this section must be orange and the symbol and letters must be black. Except for size the BIOHAZARD marking must appear as follows:



(d) The BIOHAZARD marking required by paragraph (a) of this section must be displayed on a background of contrasting color. It may be displayed on a plain white square-on-point configuration having the same outside dimensions as a placard, as specified in § 172.519(c) of this part.

[67 FR 53135, Aug. 14, 2002]

§ 172.324 Hazardous substances in non-bulk packagings.

For each non-bulk package that contains a hazardous substance—

(a) Except for packages of radioactive material labeled in accordance with § 172.403, if the proper shipping name of a material that is a hazardous substance does not identify the hazardous substance by name, the name of the hazardous substance must be marked on the package, in parentheses,

§ 172.325

49 CFR Ch. I (10–1–03 Edition)

in association with the proper shipping name. If the material contains two or more hazardous substances, at least two hazardous substances, including the two with the lowest reportable quantities (RQs), must be identified. For a hazardous waste, the waste code (e.g., D001), if appropriate, may be used to identify the hazardous substance.

(b) The letters "RQ" shall be marked on the package in association with the proper shipping name.

[Amdt. 172–108, 52 FR 4843, Feb. 17, 1987, as amended by Amdt. 172–119, 54 FR 39505, Sept. 26, 1989; Amdt. 172–122, 55 FR 46825, Nov. 7, 1990; Amdt. 172–123, 55 FR 52592, Dec. 21, 1990; Amdt. 172–127, 57 FR 52939, Nov. 5, 1992; Amdt. 172–149, 61 FR 27172, May 30, 1996]

§ 172.325 Elevated temperature materials.

(a) Except as provided in paragraph (b) of this section, a bulk packaging containing an elevated temperature material must be marked on two opposing sides with the word "HOT" in

black or white Gothic lettering on a contrasting background. The marking must be displayed on the packaging itself or in black lettering on a plain white square-on-point configuration having the same outside dimensions as a placard. (See §172.302(b) for size of markings on bulk packagings.)

(b) Bulk packagings containing molten aluminum or molten sulfur must be marked "MOLTEN ALUMINUM" or "MOLTEN SULFUR", respectively, in the same manner as prescribed in paragraph (a) of this section.

(c) If the identification number is displayed on a white-square-on-point display configuration, as prescribed in §172.336(b), the word "HOT" may be displayed in the upper corner of the same white-square-on-point display configuration. The word "HOT" must be in black letters having a height of at least 50 mm (2.0 inches). Except for size, these markings shall be as illustrated for an Elevated temperature material, liquid, n.o.s.:



[Amdt. 172-125, 58 FR 3348, Jan. 8, 1993, as amended by Amdt. 172-139, 59 FR 67487, Dec. 29, 1994]

§ 172.326 Portable tanks.

(a) *Shipping name.* No person may offer for transportation or transport a portable tank containing a hazardous material unless it is legibly marked on two opposing sides with the proper shipping name specified for the material in the § 172.101 table.

(b) *Owner's name.* The name of the owner or of the lessee, if applicable, must be displayed on a portable tank that contains a hazardous material.

(c) *Identification numbers.* (1) If the identification number markings required by § 172.302(a) are not visible, a transport vehicle or freight container used to transport a portable tank con-

taining a hazardous material must be marked on each side and each end as required by § 172.332 with the identification number specified for the material in the § 172.101 table.

(2) Each person who offers a portable tank containing a hazardous material to a motor carrier, for transportation in a transport vehicle or freight container, shall provide the motor carrier with the required identification numbers on placards, orange panels, or the white square-on-point configuration, as appropriate, for each side and each end

§ 172.328

of the transport vehicle or freight container from which identification numbers on the portable tank are not visible.

[Amdt. 172-123, 55 FR 52592, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991]

§ 172.328 Cargo tanks.

(a) *Providing and affixing identification numbers.* Unless a cargo tank is already marked with the identification numbers required by this subpart, the identification numbers must be provided or affixed as follows:

(1) A person who offers a hazardous material to a motor carrier for transportation in a cargo tank shall provide the motor carrier the identification numbers on placards or shall affix orange panels containing the required identification numbers, prior to or at the time the material is offered for transportation.

(2) A person who offers a cargo tank containing a hazardous material for transportation shall affix the required identification numbers on panels or placards prior to or at the time the cargo tank is offered for transportation.

(3) For a cargo tank transported on or in a transport vehicle or freight container, if the identification number marking on the cargo tank required by § 172.302(a) would not normally be visible during transportation—

(i) The transport vehicle or freight container must be marked as required by § 172.332 on each side and each end with the identification number specified for the material in the § 172.101 table; and

(ii) When the cargo tank is permanently installed within an enclosed cargo body of the transport vehicle or freight container, the identification number marking required by § 172.302(a) need only be displayed on each side and end of a cargo tank that is visible when the cargo tank is accessed.

(b) *Required markings: Gases.* Except for certain nurse tanks which must be marked as specified in § 173.315(m) of this subchapter, each cargo tank transporting a Class 2 material subject to this subchapter must be marked, in lettering no less than 50 mm (2.0 inches), on each side and each end with—

(1) The proper shipping name specified for the gas in the § 172.101 table; or

(2) An appropriate common name for the material (e.g., ‘‘Refrigerant Gas’’).

(c) *QT/NQT markings.* Each MC 330 and MC 331 cargo tank must be marked near the specification plate, in letters no less than 50 mm (2.0 inches) in height, with—

(1) ‘‘QT’’, if the cargo tank is constructed of quenched and tempered steel; or

(2) ‘‘NQT’’, if the cargo tank is constructed of other than quenched and tempered steel.

(d) After October 3, 2005, each on-vehicle manually-activated remote shut-off device for closure of the internal self-closing stop valve must be identified by marking ‘‘Emergency Shutoff’’ in letters at least 0.75 inches in height, in a color that contrasts with its background, and located in an area immediately adjacent to the means of closure.

[Amdt. 172-123, 55 FR 52592, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; Amdt. 172-151, 62 FR 1228, Jan. 8, 1997; 62 FR 39045, July 22, 1997; 68 FR 19277, Apr. 18, 2003]

§ 172.330 Tank cars and multi-unit tank car tanks.

(a) *Shipping name and identification number.* No person may offer for transportation or transport a hazardous material—

(1) In a tank car unless the following conditions are met:

(i) The tank car must be marked on each side and each end as required by § 172.302 with the identification number specified for the material in the § 172.101 table; and

(ii) A tank car containing any of the following materials must be marked on each side with the key words of the proper shipping name specified for the material in the § 172.101 table, or with a common name authorized for the material in this subchapter (e.g., ‘‘Refrigerant Gas’’):

- Acrolein, stabilized
- Ammonia, anhydrous, liquefied
- Ammonia solutions (more than 50% ammonia)
- Bromine or Bromine solutions
- Bromine chloride
- Chloroprene, stabilized
- Dispersant gas or Refrigerant gas (as defined in § 173.115 of this subchapter)

Division 2.1 materials
 Division 2.2 materials (in Class DOT 107 tank cars only)
 Division 2.3 materials
 Formic acid
 Hydrocyanic acid, aqueous solutions
 Hydrofluoric acid, solution
 Hydrogen cyanide, stabilized (less than 3% water)
 Hydrogen fluoride, anhydrous
 Hydrogen peroxide, aqueous solutions (greater than 20% hydrogen peroxide)
 Hydrogen peroxide, stabilized
 Hydrogen peroxide and peroxyacetic acid mixtures
 Nitric acid (other than red fuming)
 Phosphorus, amorphous
 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
 Phosphorus white, molten
 Potassium nitrate and sodium nitrate mixtures
 Potassium permanganate
 Sulfur trioxide, stabilized
 Sulfur trioxide, uninhibited

(2) In a multi-unit tank car tank, unless the tank is marked on two opposing sides, in letters and numerals no less than 50 mm (2.0 inches) high—

(i) With the proper shipping name specified for the material in the §172.101 table or with a common name authorized for the material in this subchapter (e.g., "Refrigerant Gas"); and

(ii) With the identification number specified for the material in the §172.101 table, unless marked in accordance with §§172.302(a) and 172.332 of this subpart.

(b) A motor vehicle or rail car used to transport a multi-unit tank car tank containing a hazardous material must be marked on each side and each end, as required by §172.332, with the identification number specified for the material in the §172.101 table.

[Amdt. 172-123, 55 FR 52593, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; 57 FR 45458, Oct. 1, 1992; Amdt. 172-148, 61 FR 28676, June 5, 1996; Amdt. 172-148, 61 FR 50254, Sept. 25, 1996; 66 FR 33425, June 21, 2001]

§172.331 Bulk packagings other than portable tanks, cargo tanks, tank cars and multi-unit tank car tanks.

(a) Each person who offers a hazardous material to a motor carrier for transportation in a bulk packaging shall provide the motor carrier with

the required identification numbers on placards or plain white square-on-point display configurations, as authorized, or shall affix orange panels containing the required identification numbers to the packaging prior to or at the time the material is offered for transportation, unless the packaging is already marked with the identification number as required by this subchapter.

(b) Each person who offers a bulk packaging containing a hazardous material for transportation shall affix to the packaging the required identification numbers on orange panels, square-on-point configurations or placards, as appropriate, prior to, or at the time the packaging is offered for transportation unless it is already marked with identification numbers as required by this subchapter.

(c) For a bulk packaging contained in or on a transport vehicle or freight container, if the identification number marking on the bulk packaging (e.g., an IBC) required by §172.302(a) is not visible, the transport vehicle or freight container must be marked as required by §172.332 on each side and each end with the identification number specified for the material in the §172.101 table.

[Amdt. 172-123, 55 FR 52593, Dec. 21, 1994, as amended by Amdt. 172-151, 62 FR 1228, Jan. 8, 1997; 62 FR 39398, July 22, 1997]

§172.332 Identification number markings.

(a) *General.* When required by §172.301, §172.302, §172.313, §172.326, §172.328, §172.330, or §172.331, identification number markings must be displayed on orange panels or placards as specified in this section, or on white square-on-point configurations as prescribed in §172.336(b).

(b) *Orange panels.* Display of an identification number on an orange panel shall be in conformance with the following:

(1) The orange panel must be 160 mm (6.3 inches) high by 400 mm (15.7 inches) wide with a 15 mm (0.6 inches) black outer border. The identification number shall be displayed in 100 mm (3.9 inches) black Helvetica Medium numerals on the orange panel. Measurements may vary from those specified plus or minus 5 mm (0.2 inches).

(2) The orange panel may be made of any durable material prescribed for placards in §172.519, and shall be of the orange color specified for labels or placards in appendix A to this part.

(3) The name and hazard class of a material may be shown in the upper left border of the orange panel in letters not more than 18 points high.

(4) Except for size and color, the orange panel and identification numbers shall be as illustrated for Liquefied petroleum gas:



(c) *Placards.* Display of an identification number on a hazard warning placard shall be in conformance with the following:

(1) The identification number shall be displayed across the center area of the placard in 88 mm (3.5 inches) black Alpine Gothic or Alternate Gothic No. 3 numerals on a white background 100 mm (3.9 inches) high and approximately 215 mm (8.5 inches) wide and may be outlined with a solid or dotted line border.

(2) The top of the 100 mm (3.9 inches) high white background shall be approximately 40 mm (1.6 inches) above the placard horizontal center line.

(3) An identification number may be displayed only on a placard corresponding to the primary hazard class of the hazardous material.

(4) For a COMBUSTIBLE placard used to display an identification number, the entire background below the white background for the identification number must be white during transportation by rail and may be white during transportation by highway.

(5) The name of the hazardous material and the hazard class may be shown in letters not more than 18 points high immediately within the upper border of the space on the placard bearing the identification number of the material.

(6) If an identification number is placed over the word(s) on a placard,

the word(s) should be substantially covered to maximize the effectiveness of the identification number.

(d) Except for size and color, the display of an identification number on a placard shall be as illustrated for Acetone:



[Amdt. 172-101, 45 FR 74667, Nov. 10, 1980, as amended by Amdt. 172-81, 48 FR 28099, June 20, 1983; Amdt. 172-110, 52 FR 29527, Aug. 10, 1987; Amdt. 172-123, 55 FR 52593, Dec. 21, 1990; 56 FR 66255, Dec. 20, 1991; Amdt. 172-151, 62 FR 1228, Jan. 8, 1997; 65 FR 50459, Aug. 18, 2000]

§ 172.334 Identification numbers; prohibited display.

(a) No person may display an identification number on a RADIOACTIVE, EXPLOSIVES 1.1, 1.2, 1.3, 1.4, 1.5 or 1.6, DANGEROUS, or subsidiary hazard placard.

(b) No person may display an identification number on a placard, orange panel or white square-on-point display configuration unless—

(1) The identification number is specified for the material in §172.101;

(2) The identification number is displayed on the placard, orange panel or white square-on-point configuration authorized by §172.332 or §172.336(b), as appropriate, and any placard used for display of the identification number corresponds to the hazard class of the material specified in §172.504;

(3) Except as provided under §172.336 (c)(4) or (c)(5), the package, freight container, or transport vehicle on which the number is displayed contains the hazardous material associated with that identification number in §172.101.

(c) Except as required by § 172.332(c)(4) for a combustible liquid, the identification number of a material may be displayed only on the placards required by the tables in § 172.504.

(d) Except as provided in § 172.336, a placard bearing an identification number may not be used to meet the requirements of subpart F of this part unless it is the correct identification number for all hazardous materials of the same class in the transport vehicle or freight container on which it is displayed.

(e) Except as specified in § 172.338, an identification number may not be displayed on an orange panel on a cargo tank unless affixed to the cargo tank by the person offering the hazardous material for transportation in the cargo tank.

(f) If a placard is required by § 172.504, an identification number may not be displayed on an orange panel unless it is displayed in proximity to the placard.

(g) No person shall add any color, number, letter, symbol, or word other than as specified in this subchapter, to any identification number marking display which is required or authorized by this subchapter.

[Amdt. 172-101, 45 FR 74667, Nov. 10, 1980, as amended by Amdt. 172-104, 51 FR 23078, June 25, 1986; Amdt. 172-110, 52 FR 29528, Aug. 10, 1987; Amdt. 172-123, 55 FR 52593, Dec. 21, 1990; 56 FR 66255, Dec. 20, 1991; Amdt. 172-127, 59 FR 49133, Sept. 26, 1994]

§ 172.336 Identification numbers; special provisions.

(a) When not required or prohibited by this subpart, identification numbers may be displayed on a transport vehicle or a freight container in the manner prescribed by this subpart.

(b) Identification numbers, when required, must be displayed on either orange panels (see § 172.332(b)) or on a plain white square-on-point display configuration having the same outside dimensions as a placard. In addition, for materials in hazard classes for which placards are specified and identification number displays are required, but for which identification numbers may not be displayed on the placards

authorized for the material (see § 172.334(a)), identification numbers must be displayed on orange panels or on the plain white square-on-point display configuration in association with the required placards. An identification number displayed on a white square-on-point display configuration is not considered to be a placard.

(1) The 100 mm (3.9 inch) by 215 mm (8.5 inches) area containing the identification number shall be located as prescribed by § 172.332 (c)(1) and (c)(2) and may be outlined with a solid or dotted line border.

(2) [Reserved]

(c) Identification numbers are not required:

(1) On the ends of a portable tank, cargo tank or tank car having more than one compartment if hazardous materials having different identification numbers are being transported therein. In such a circumstance, the identification numbers on the sides of the tank shall be displayed in the same sequence as the compartments containing the materials they identify.

(2) On a cargo tank containing only gasoline, if the cargo tank is marked "Gasoline" on each side and rear in letters no less than 50 mm (2 inches) high, or is placarded in accordance with § 172.542(c).

(3) On a cargo tank containing only fuel oil, if the cargo tank is marked "Fuel Oil" on each side and rear in letters no less than 50 mm (2 inches) high, or is placarded in accordance with § 172.544(c).

(4) For each of the different liquid petroleum distillate fuels, including gasoline and gasohol in a compartmented cargo tank or tank car, if the identification number is displayed for the distillate fuel having the lowest flash point.

(5) For each of the different liquid petroleum distillate fuels, including gasoline and gasohol transported in a cargo tank, if the identification number is displayed for the liquid petroleum distillate fuel having the lowest flash point.

(6) On nurse tanks meeting the provisions of §173.315(m) of this subchapter.

[Amdt. 172–101, 45 FR 74667, Nov. 10, 1980, as amended by Amdt. 172–74, 47 FR 40365, Sept. 30, 1982; Amdt. 172–109, 52 FR 13038, Apr. 20, 1987; Amdt. 172–110, 52 FR 29528, Aug. 10, 1987; Amdt. 172–123, 55 FR 52593, Dec. 21, 1990; 56 FR 66255, Dec. 20, 1991; 65 FR 50459, Aug. 18, 2000]

§ 172.338 Replacement of identification numbers.

If more than one of the identification number markings on placards, orange panels, or white square-on-point display configurations that are required to be displayed are lost, damaged or destroyed during transportation, the carrier shall replace all the missing or damaged identification numbers as soon as practicable. However, in such a case, the numbers may be entered by hand on the appropriate placard, orange panel or white square-on-point display configuration providing the correct identification numbers are entered legibly using an indelible marking material. When entered by hand, the identification numbers must be located in the white display area specified in §172.332. This section does not preclude required compliance with the placarding requirements of subpart F of this subchapter.

[Amdt. 172–110, 52 FR 29528, Aug. 10, 1987]

Subpart E—Labeling

§ 172.400 General labeling requirements.

(a) Except as specified in §172.400a, each person who offers for transportation or transports a hazardous material in any of the following packages or containment devices, shall label the package or containment device with labels specified for the material in the §172.101 table and in this subpart:

- (1) A non-bulk package;
- (2) A bulk packaging, other than a cargo tank, portable tank, or tank car, with a volumetric capacity of less than 18m³ (640 cubic feet), unless placarded in accordance with subpart F of this part;
- (3) A portable tank of less than 3785 L (1000 gallons) capacity, unless placarded in accordance with subpart F of this part;
- (4) A DOT Specification 106 or 110 multi-unit tank car tank, unless placarded in accordance with subpart F of this part; and
- (5) An overpack, freight container or unit load device, of less than 18 m³ (640 cubic feet), which contains a package for which labels are required, unless placarded or marked in accordance with §172.512 of this part.

(b) Labeling is required for a hazardous material which meets one or more hazard class definitions, in accordance with column 6 of the §172.101 table and the following table:

| Hazard class or division | Label name | Label design or section reference |
|---|---|-----------------------------------|
| 1.1 | EXPLOSIVES 1.1 | 172.411 |
| 1.2 | EXPLOSIVES 1.2 | 172.411 |
| 1.3 | EXPLOSIVES 1.3 | 172.411 |
| 1.4 | EXPLOSIVES 1.4 | 172.411 |
| 1.5 | EXPLOSIVES 1.5 | 172.411 |
| 1.6 | EXPLOSIVES 1.6 | 172.411 |
| 2.1 | FLAMMABLE GAS | 172.417 |
| 2.2 | NONFLAMMABLE GAS | 172.415 |
| 2.3 | POISON GAS | 172.416 |
| 3 (flammable liquid) Combustible liquid | FLAMMABLE LIQUID (none) | 172.419 |
| 4.1 | FLAMMABLE SOLID | 172.420 |
| 4.2 | SPONTANEOUSLY COMBUSTIBLE | 172.422 |
| 4.3 | DANGEROUS WHEN WET | 172.423 |
| 5.1 | OXIDIZER | 172.426 |
| 5.2 | ORGANIC PEROXIDE | 172.427 |
| 6.1 (inhalation hazard, Zone A or B) | POISON INHALATION HAZARD | 172.429 |
| 6.1 (other than inhalation hazard, Zone A or B) | POISON | 172.430 |
| 6.2 | INFECTIOUS SUBSTANCE ¹ | 172.432 |
| 7 (see § 172.403) | RADIOACTIVE WHITE-I | 172.436 |
| 7 | RADIOACTIVE YELLOW-II | 172.438 |
| 7 | RADIOACTIVE YELLOW-III | 172.440 |

| Hazard class or division | Label name | Label design or section reference |
|---|-----------------|-----------------------------------|
| 7 (empty packages, see § 173.428 of this subchapter) .. | EMPTY | 172.450 |
| 8 | CORROSIVE | 172.442 |
| 9 | CLASS 9 | 172.446 |

¹The ETIOLOGIC AGENT label specified in regulations of the Department of Health and Human Services at 42 CFR 72.3 may apply to packages of infectious substances.

[Amdt. 172-123, 55 FR 52593, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; Amdt. 172-151, 62 FR 1228, Jan. 8, 1997; 64 FR 10776, Mar. 5, 1999; 64 FR 51918, Sept. 27, 1999]

§ 172.400a Exceptions from labeling.

(a) Notwithstanding the provisions of § 172.400, a label is not required on—

(1) A cylinder, or a Dewar flask conforming to § 173.320 of this subchapter containing a Division 2.1 or Division 2.2 gas that is—

- (i) Not poisonous;
- (ii) Carried by a private or contract motor carrier;
- (iii) Not overpacked; and
- (iv) Durably and legibly marked in accordance with CGA Pamphlet C-7, appendix A.

(2) A package or unit of military explosives (including ammunition) shipped by or on behalf of the DOD when in—

- (i) Freight containerload, carload or truckload shipments, if loaded and unloaded by the shipper or DOD; or
- (ii) Unitized or palletized break-bulk shipments by cargo vessel under charter to DOD if at least one required label is displayed on each unitized or palletized load.

(3) A package containing a hazardous material other than ammunition that is—

- (i) Loaded and unloaded under the supervision of DOD personnel, and
- (ii) Escorted by DOD personnel in a separate vehicle.

(4) A compressed gas cylinder permanently mounted in or on a transport vehicle.

(5) A freight container, aircraft unit load device or portable tank, which—

- (i) Is placarded in accordance with subpart F of this part, or
- (ii) Conforms to paragraph (a)(3) or (b)(3) of § 172.512.

(6) An overpack or unit load device in or on which labels representative of

each hazardous material in the overpack or unit load device are visible.

(7) A package of low specific activity radioactive material and surface contaminated objects, when transported under § 173.427(a)(6)(vi) of this subchapter.

(b) Certain exceptions to labeling requirements are provided for small quantities and limited quantities in applicable sections in part 173 of this subchapter.

(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.

(d) A package containing a material poisonous by inhalation (see § 171.8 of this subchapter) in a closed transport vehicle or freight container may be excepted from the POISON INHALATION HAZARD or POISON GAS label or placard, under the conditions set forth in §§ 171.12 and 171.12a of this subchapter.

[Amdt. 172-123, 55 FR 52594, Dec. 21, 1990, as amended by Amdt. 172-132, 58 FR 50501, Sept. 27, 1993; 172-130, 58 FR 51531, Oct. 1, 1993; Amdt. 172-139, 59 FR 67490, Dec. 29, 1994; Amdt. 172-145, 60 FR 49110, Sept. 21, 1995; 63 FR 52849, Oct. 1, 1998; 64 FR 10776, Mar. 5, 1999; 65 FR 58626, Sept. 29, 2000; 66 FR 44255, Aug. 22, 2001]

§ 172.401 Prohibited labeling.

(a) Except as otherwise provided in this section, no person may offer for transportation and no carrier may transport a package bearing a label specified in this subpart unless:

- (1) The package contains a material that is a hazardous material, and
- (2) The label represents a hazard of the hazardous material in the package.

(b) No person may offer for transportation and no carrier may transport a package bearing any marking or label which by its color, design, or shape could be confused with or conflict with a label prescribed by this part.

(c) The restrictions in paragraphs (a) and (b) of this section, do not apply to packages labeled in conformance with:

- (1) The UN Recommendations (see § 171.7 of this subchapter);
- (2) The IMDG Code (see § 171.7 of this subchapter);
- (3) The ICAO Technical Instructions (see § 171.7 of this subchapter);
- (4) The TDG Regulations (see § 171.7 of this subchapter).

(d) The provisions of paragraph (a) of this section do not apply to a packaging bearing a label if that packaging is:

- (1) Unused or cleaned and purged of all residue;
- (2) Transported in a transport vehicle or freight container in such a manner that the packaging is not visible during transportation; and
- (3) Loaded by the shipper and unloaded by the shipper or consignee.

[Amdt. 172-9, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-75, 47 FR 44471, Oct. 7, 1982; Amdt. 172-77, 47 FR 54822, Dec. 6, 1982; Amdt. 172-94, 49 FR 38134, Sept. 27, 1984; Amdt. 172-100, 50 FR 41521, Oct. 11, 1985; Amdt. 172-123, 55 FR 52594, Dec. 21, 1990; Amdt. 172-132, 58 FR 50501, Sept. 27, 1993; 66 FR 8647, Feb. 1, 2001; 66 FR 45379, Aug. 28, 2001]

§ 172.402 Additional labeling requirements.

(a) *Subsidiary hazard labels.* Each package containing a hazardous material—

- (1) Shall be labeled with primary and subsidiary hazard labels as specified in column 6 of the § 172.101 table (unless excepted in paragraph (a)(2) of this section); and
- (2) 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), if not already labeled under paragraph (a)(1) of this section, shall be labeled with subsidiary hazard labels in accordance with the following table:

SUBSIDIARY HAZARD LABELS

| Subsidiary hazard level (packing group) | Subsidiary Hazard (Class or Division) | | | | | | |
|---|---------------------------------------|-----|-----|-----|-----|-----|---|
| | 3 | 4.1 | 4.2 | 4.3 | 5.1 | 6.1 | 8 |
| I | X | *** | *** | X | X | X | X |
| II | X | X | X | X | X | X | X |
| III | * | X | X | X | X | X | X |

X—Required for all modes.
 *—Required for all modes, except for a material with a flash point at or above 38 °C (100 °F) transported by rail or highway.
 **—Reserved
 ***—Impossible as subsidiary hazard.

(b) *Display of hazard class on labels.* The appropriate hazard class or division number must be displayed in the lower corner of a primary hazard label and a subsidiary hazard label. A subsidiary label meeting the specifications of this section which were in effect on September 30, 2001, such as, a label without the hazard class or division number displayed in the lower corner of the label) may continue to be used as a subsidiary label in domestic transportation by rail or highway until October 1, 2005, provided the color tolerances are maintained and are in accordance with the display requirements in this subchapter.

(c) *Cargo Aircraft Only label.* Each person who offers for transportation or transports by aircraft a package containing a hazardous material which is authorized on cargo aircraft only shall label the package with a CARGO AIRCRAFT ONLY label specified in § 172.448 of this subpart.

(d) *Class 7 (Radioactive) Materials.* Except as otherwise provided in this paragraph, each package containing a Class 7 material that also meets the definition of one or more additional hazard classes must be labeled as a Class 7 material as required by § 172.403 of this subpart and for each additional hazard. A subsidiary hazard label is not required on a package containing a Class 7 material that conforms to criteria specified in § 173.4 of this subchapter, except § 173.4(a)(1)(iv) of this subchapter.

(e) *Class 1 (explosive) Materials.* In addition to the label specified in column 6 of the § 172.101 table, each package of Class 1 material that also meets the definition for:

- (1) Division 6.1, Packing Groups I or II, shall be labeled POISON or POISON

INHALATION HAZARD, as appropriate.

(2) Class 7, shall be labeled in accordance with §172.403 of this subpart.

(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 an oxidizing gas (see §171.8 of this subchapter) 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.

[Amdt. 172-123, 55 FR 52594, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; Amdt. 172-139, 59 FR 67490, Dec. 29, 1994; Amdt. 172-140, 60 FR 26805, May 18, 1995; Amdt. 172-149, 61 FR 27173, May 30, 1996; 62 FR 39405, July 22, 1997; 66 FR 33425, June 21, 2001]

§ 172.403 Class 7 (radioactive) material.

(a) Unless excepted from labeling by §§173.421 through 173.427 of this subchapter, each package of radioactive material must be labeled as provided in this section.

(b) The proper label to affix to a package of Class 7 (radioactive) material is based on the radiation level at the surface of the package and the transport index. The proper category of label must be determined in accordance with paragraph (c) of this section. The label to be applied must be the highest category required for any of the two determining conditions for the package. RADIOACTIVE WHITE-I is the lowest category and RADIOACTIVE YELLOW-III is the highest. For example, a package with a transport index of 0.8 and a maximum surface radiation level of 0.6 millisievert (60 millirem) per hour must bear a RADIOACTIVE YELLOW-III label.

(c) Category of label to be applied to Class 7 (radioactive) materials packages:

| Transport index | Maximum radiation level at any point on the external surface | Label category ¹ |
|--|--|---|
| 0 ² | Less than or equal to 0.005 mSv/h (0.5 mrem/h). | WHITE-I. |
| More than 0 but not more than 1 | Greater than 0.005 mSv/h (0.5 mrem/h) but less than or equal to 0.5 mSv/h (50 mrem/h). | YELLOW-II. |
| More than 1 but not more than 10 | Greater than 0.5 mSv/h (50 mrem/h) but less than or equal to 2 mSv/h (200 mrem/h). | YELLOW-III. |
| More than 10 | Greater than 2 mSv/h (200 mrem/h) but less than or equal to 10 mSv/h (1,000 mrem/h). | YELLOW-III (Must be shipped under exclusive use provisions; see 173.441(b) of this subchapter). |

¹ Any package containing a "highway route controlled quantity" (§ 173.403 of this subchapter) must be labelled as RADIOACTIVE YELLOW-III.

² If the measured TI is not greater than 0.05, the value may be considered to be zero.

(d) *EMPTY* label. See §173.428(d) of this subchapter for EMPTY labeling requirements.

(e) [Reserved]

(f) Each package required by this section to be labeled with a RADIOACTIVE label must have two of these labels, affixed to opposite sides of the package. (See §172.406(e)(3) for freight container label requirements).

(g) The following applicable items of information must be entered in the blank spaces on the RADIOACTIVE label by legible printing (manual or

mechanical), using a durable weather resistant means of marking:

(1) *Contents.* The name of the radionuclides as taken from the listing of radionuclides in §173.435 of this subchapter (symbols which conform to established radiation protection terminology are authorized, i.e., ⁹⁹Mo, ⁶⁰Co, etc.). For mixtures of radionuclides, with consideration of space available on the label, the radionuclides that must be shown must be determined in accordance with §173.433(f) of this subchapter.

(2) *Activity.* Activity units must be expressed in appropriate SI units (e.g., Becquerels (Bq), Terabecquerels (Tbq), etc.) or in both appropriate SI units and appropriate customary units (Curies (Ci), MilliCuries (mCi) microCuries (uCi), etc.). Abbreviations are authorized. Except for plutonium-238, plutonium-239, and plutonium-241, the weight in grams or kilograms of fissile radionuclides may be inserted instead of activity units. For plutonium-238, plutonium-239, and plutonium-241, the weight in grams or kilograms of fissile radionuclides may be inserted in addition to the activity units.

(3) *Transport index.* (See §173.403 of this subchapter.)

[Amdt. 172–29, 41 FR 15996, Apr. 15, 1976]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 172.404, see the List of CFR Sections Affected which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 172.404 Labels for mixed and consolidated packaging.

(a) *Mixed packaging.* When hazardous materials having different hazard classes are packed within the same packaging, or within the same outside container or overpack as described in §173.25 and authorized by §173.21 of this subchapter, the packaging, outside container or overpack must be labeled as required for each class of hazardous material contained therein.

(b) *Consolidated packaging.* When two or more packages containing compatible hazardous material (see §173.21 of this subchapter) are placed within the same outside container or overpack, the outside container or overpack must be labeled as required for each class of hazardous material contained therein.

§ 172.405 Authorized label modifications.

(a) For Classes 1, 2, 3, 4, 5, 6, and 8, text indicating a hazard (for example FLAMMABLE LIQUID) is not required on a primary or subsidiary label.

(b) For a package containing Oxygen, compressed, or Oxygen, refrigerated liquid, the OXIDIZER label specified in §172.426 of this subpart, modified to display the word “OXYGEN” instead of “OXIDIZER”, and the class number “2” instead of “5.1”, may be used in

place of the NON-FLAMMABLE GAS and OXIDIZER labels. Notwithstanding the provisions of paragraph (a) of this section, the word “OXYGEN” must appear on the label.

(c) For a package containing a Division 6.1, Packing Group III material, the POISON label specified in §172.430 may be modified to display the text “PG III” instead of “POISON” or “TOXIC” below the mid line of the label. Also see §172.313(d).

[Amdt. 172–123, 55 FR 52594, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; 57 FR 45458, Oct. 1, 1992; 64 FR 10776, Mar. 5, 1999; 66 FR 33425, June 21, 2001]

§ 172.406 Placement of labels.

(a) *General.* (1) Except as provided in paragraphs (b) and (e) of this section, each label required by this subpart must—

(i) Be printed on or affixed to a surface (other than the bottom) of the package or containment device containing the hazardous material; and

(ii) Be located on the same surface of the package and near the proper shipping name marking, if the package dimensions are adequate.

(2) Except as provided in paragraph (e) of this section, duplicate labeling is not required on a package or containment device (such as to satisfy redundant labeling requirements).

(b) *Exceptions.* A label may be printed on or placed on a securely affixed tag, or may be affixed by other suitable means to:

(1) A package that contains no radioactive material and which has dimensions less than those of the required label;

(2) A cylinder; and

(3) A package which has such an irregular surface that a label cannot be satisfactorily affixed.

(c) *Placement of multiple labels.* When primary and subsidiary hazard labels are required, they must be displayed next to each other. Placement conforms to this requirement if labels are within 150 mm (6 inches) of one another.

(d) *Contrast with background.* Each label must be printed on or affixed to a background of contrasting color, or must have a dotted or solid line outer border.

(e) *Duplicate labeling.* Generally, only one of each different required label must be displayed on a package. However, duplicate labels must be displayed on at least two sides or two ends (other than the bottom) of—

(1) Each package or overpack having a volume of 1.8 m³ (64 cubic feet) or more;

(2) Each non-bulk package containing a radioactive material;

(3) Each DOT 106 or 110 multi-unit tank car tank. Labels must be displayed on each end;

(4) Each portable tank of less than 3,785 L (1000 gallons) capacity; and

(5) Each freight container or aircraft unit load device having a volume of 1.8 m³ (64 cubic feet) or more, but less than 18 m³ (640 cubic feet). One of each required label must be displayed on or near the closure.

(f) *Visibility.* A label must be clearly visible and may not be obscured by markings or attachments.

[Amdt. 172-123, 55 FR 52594, Dec. 21, 1990, as amended at 56 FR 66255, Dec. 20, 1991; Amdt. 172-130, 58 FR 51531, Oct. 1, 1993]

§ 172.407 Label specifications.

(a) *Durability.* Each label, whether printed on or affixed to a package, must be durable and weather resistant. A label on a package must be able to withstand, without deterioration or a substantial change in color, a 30-day exposure to conditions incident to transportation that reasonably could be expected to be encountered by the labeled package.

(b) *Design.* (1) Except for size and color, the printing, inner border, and symbol on each label must be as shown in §§ 172.411 through 172.448 of this subpart, as appropriate.

(2) The dotted line border shown on each label is not part of the label specification, except when used as an alternative for the solid line outer border to meet the requirements of § 172.406(d) of this subpart.

(c) *Size.* (1) Each diamond (square-on-point) label prescribed in this subpart must be at least 100 mm (3.9 inches) on each side with each side having a solid line inner border 5.0 to 6.3 mm (0.2 to 0.25 inches) from the edge.

(2) The CARGO AIRCRAFT ONLY label must be a rectangle measuring at

least 110 mm (4.3 inches) in height by 120 mm (4.7 inches) in width. The word "DANGER" must be shown in letters measuring at least 12.7 mm (0.5 inches) in height.

(3) Except as otherwise provided in this subpart, the hazard class number, or division number, as appropriate, must be at least 6.3 mm (0.25 inches) and not greater than 12.7 mm (0.5 inches).

(4) When text indicating a hazard is displayed on a label, the label name must be shown in letters measuring at least 7.6 mm (0.3 inches) in height. For SPONTANEOUSLY COMBUSTIBLE or DANGEROUS WHEN WET labels, the words "Spontaneously" and "When Wet" must be shown in letters measuring at least 5.1 mm (0.2 inches) in height.

(5) The symbol on each label must be proportionate in size to that shown in the appropriate section of this subpart.

(d) *Color.* (1) The background color on each label must be as prescribed in §§ 172.411 through 172.448 of this subpart, as appropriate.

(2) The symbol, text, numbers, and border must be shown in black on a label except that—

(i) White may be used on a label with a one color background of green, red or blue; and

(ii) White must be used for the text and class number for the CORROSIVE label.

(3) Black and any color on a label must be able to withstand, without substantial change, a 72-hour fadeometer test (for a description of equipment designed for this purpose, see ASTM G 23-69 (1975) or ASTM G 26-70).

(4) (i) A color on a label, upon visual examination, must fall within the color tolerances—

(A) Displayed on color charts conforming to the technical specifications for charts set forth in table 1 or 2 in appendix A to this part; or

(B) For labels printed on packaging surfaces, specified in table 3 in appendix A to this part.

(ii) Color charts conforming to appendix A to this part are on display in Office of Hazardous Materials Safety, Office of Hazardous Materials Standards, Room 8422, Nassif Building, 400

§ 172.411

Seventh Street, SW., Washington DC 20590-0001.

(5) The specified label color must extend to the edge of the label in the area designated on each label except the CORROSIVE, RADIOACTIVE YELLOW-II AND RADIOACTIVE YELLOW-III labels on which the color must extend only to the inner border.

(e) *Form identification.* A label may contain form identification information, including the name of its maker, provided that information is printed outside the solid line inner border in no larger than 10-point type.

(f) *Exceptions.* Except for materials poisonous by inhalation (See §171.8 of this subchapter), a label conforming to specifications in the UN Recommendations may be used in place of a corresponding label that conforms to the requirements of this subpart.

(g) *Trefoil symbol.* The trefoil symbol on the RADIOACTIVE WHITE-I, RADIOACTIVE YELLOW-II, and RADIOACTIVE YELLOW-III labels must meet the appropriate specifications in appendix B of this part.

[Amdt. 172-123, 55 FR 52595, Dec. 21, 1990, as amended at 56 FR 66256, Dec. 20, 1991; Amdt. 172-143, 60 FR 50305, Sept. 28, 1995; 64 FR 10776, Mar. 5, 1999; 66 FR 8647, Feb. 1, 2001; 66 FR 44255, Aug. 22, 2001; 67 FR 61013, Sept. 27, 2002]

§172.411 EXPLOSIVE 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6 labels, and EXPLOSIVE Subsidiary label.

(a) Except for size and color, the EXPLOSIVE 1.1, EXPLOSIVE 1.2 and EXPLOSIVE 1.3 labels must be as follows:



(b) In addition to complying with §172.407, the background color on the EXPLOSIVE 1.1, EXPLOSIVE 1.2 and EXPLOSIVE 1.3 labels must be orange. The “**” must be replaced with the appropriate division number and compatibility group letter. The compatibility group letter must be the same size as the division number and must be shown as a capitalized Roman letter.

(c) Except for size and color, the EXPLOSIVE 1.4, EXPLOSIVE 1.5 and EXPLOSIVE 1.6 labels must be as follows:

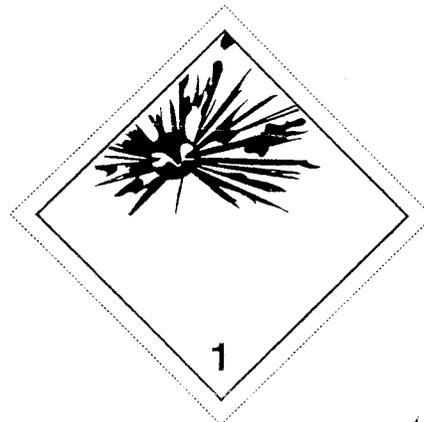
EXPLOSIVE 1.4:



EXPLOSIVE 1.5:



may be displayed on the subsidiary hazard label. Except for size and color, the EXPLOSIVE subsidiary label must be as follows:



EXPLOSIVE 1.6:



(f) The EXPLOSIVE subsidiary label must comply with § 172.407.

[Amdt. 172-123, 56 FR 66256, Dec. 20, 1991, as amended by Amdt. 172-139, 59 FR 67490, Dec. 29, 1994; 66 FR 33425, June 21, 2001; 68 FR 45031, July 31, 2003]

§ 172.415 NON-FLAMMABLE GAS label.

(a) Except for size and color, the NON-FLAMMABLE GAS label must be as follows:



(d) In addition to complying with § 172.407, the background color on the EXPLOSIVE 1.4, EXPLOSIVE 1.5 and EXPLOSIVE 1.6 label must be orange. The “*” must be replaced with the appropriate compatibility group. The compatibility group letter must be shown as a capitalized Roman letter. Division numbers must measure at least 30 mm (1.2 inches) in height and at least 5 mm (0.2 inches) in width.

(e) An EXPLOSIVE subsidiary label is required for materials identified in Column (6) of the HMT as having an explosive subsidiary hazard. The division number or compatibility group letter

(b) In addition to complying with § 172.407, the background color on the

§ 172.416

NON-FLAMMABLE GAS label must be green.

[Amdt. 172-123, 56 FR 66256, Dec. 20, 1991]

§ 172.416 POISON GAS label.

(a) Except for size and color, the POISON GAS label must be as follows:

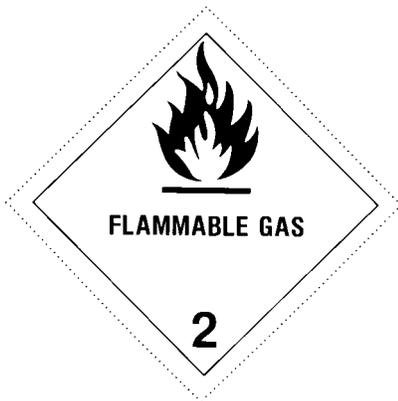


(b) In addition to complying with § 172.407, the background on the POISON GAS label and the symbol must be white. The background of the upper diamond must be black and the lower point of the upper diamond must be 14 mm (0.54 inches) above the horizontal center line.

[62 FR 39405, July 22, 1997]

§ 172.417 FLAMMABLE GAS label.

(a) Except for size and color, the FLAMMABLE GAS label must be as follows:



49 CFR Ch. I (10-1-03 Edition)

(b) In addition to complying with § 172.407, the background color on the FLAMMABLE GAS label must be red.

[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991]

§ 172.419 FLAMMABLE LIQUID label.

(a) Except for size and color the FLAMMABLE LIQUID label must be as follows:



(b) In addition to complying with § 172.407, the background color on the FLAMMABLE LIQUID label must be red.

[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991]

§ 172.420 FLAMMABLE SOLID label.

(a) Except for size and color, the FLAMMABLE SOLID label must be as follows:



(b) In addition to complying with § 172.407, the background on the FLAMMABLE SOLID label must be white with vertical red stripes equally spaced on each side of a red stripe placed in the center of the label. The red vertical stripes must be spaced so that, visually, they appear equal in width to the white spaces between them. The symbol (flame) and text (when used) must be overprinted. The text "FLAMMABLE SOLID" may be placed in a white rectangle.

[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991]

§ 172.422 SPONTANEOUSLY COMBUSTIBLE label.

(a) Except for size and color, the SPONTANEOUSLY COMBUSTIBLE label must be as follows:



(b) In addition to complying with § 172.407, the background color on the lower half of the SPONTANEOUSLY COMBUSTIBLE label must be red and the upper half must be white.

[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991, as amended at 57 FR 45458, Oct. 1, 1992]

§ 172.423 DANGEROUS WHEN WET label.

(a) Except for size and color, the DANGEROUS WHEN WET label must be as follows:



(b) In addition to complying with § 172.407, the background color on the DANGEROUS WHEN WET label must be blue.

[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991]

§ 172.426 OXIDIZER label.

(a) Except for size and color, the OXIDIZER label must be as follows:



(b) In addition to complying with § 172.407, the background color on the OXIDIZER label must be yellow.

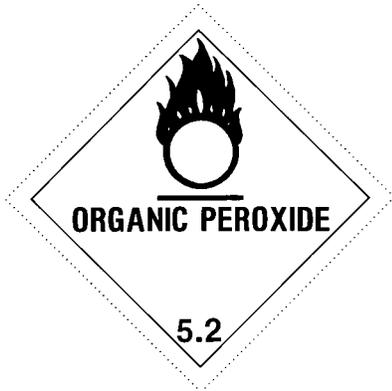
[Amdt. 172-123, 56 FR 66257, Dec. 20, 1991]

§ 172.427 ORGANIC PEROXIDE label.

(a) Except for size and color, the ORGANIC PEROXIDE label must be as follows:

§ 172.429

FOLLOWS.



(b) In addition to complying with § 172.407, the background color on the ORGANIC PEROXIDE label must be yellow.

[Amdt. 172-123, 56 FR 66258, Dec. 20, 1991]

§ 172.429 POISON INHALATION HAZARD label.

(a) Except for size and color, the POISON INHALATION HAZARD label must be as follows:



49 CFR Ch. I (10-1-03 Edition)

(b) In addition to complying with § 172.407, the background on the POISON INHALATION HAZARD label and the symbol must be white. The background of the upper diamond must be black and the lower point of the upper diamond must be 14 mm (0.54 inches) above the horizontal center line.

[62 FR 39406, July 22, 1997]

§ 172.430 POISON label.

(a) Except for size and color, the POISON label must be as follows:



(b) In addition to complying with § 172.407, the background on the POISON label must be white. The word "TOXIC" may be used in lieu of the word "POISON".

[Amdt. 172-123, 56 FR 66258, Dec. 20, 1991, as amended by Amdt. 172-139, 59 FR 67490, Dec. 29, 1994]

§ 172.431 [Reserved]

§ 172.432 INFECTIOUS SUBSTANCE label.

(a) Except for size and color, the INFECTIOUS SUBSTANCE label must be as follows:



(b) In addition to complying with § 172.407, the background on the INFECTIOUS SUBSTANCE label must be white.

[Amdt. 172-123, 56 FR 66258, Dec. 20, 1991, as amended at 67 FR 53136, Aug. 14, 2002]

§ 172.436 RADIOACTIVE WHITE-I label.

(a) Except for size and color, the RADIOACTIVE WHITE-I label must be as follows:



(b) In addition to complying with § 172.407, the background on the RADIOACTIVE WHITE-I label must be white. The printing and symbol must be black, except for the "I" which must be red.

[Amdt. 172-123, 56 FR 66259, Dec. 20, 1991]

§ 172.438

49 CFR Ch. I (10–1–03 Edition)

§ 172.438 RADIOACTIVE YELLOW-II label.

(a) Except for size and color, the RADIOACTIVE YELLOW-II must be as follows:



(b) In addition to complying with § 172.407, the background color on the RADIOACTIVE YELLOW-II label must be yellow in the top half and white in the lower half. The printing and symbol must be black, except for the “II” which must be red.

[Amdt. 172–123, 56 FR 66259, Dec. 20, 1991]

§ 172.440 RADIOACTIVE YELLOW-III label.

(a) Except for size and color, the RADIOACTIVE YELLOW-III label must be as follows:



(b) In addition to complying with § 172.407, the background color on the

RADIOACTIVE YELLOW-III label must be yellow in the top half and white in the lower half. The printing and symbol must be black, except for the “III” which must be red.

[Amdt. 172–123, 56 FR 66259, Dec. 20, 1991]

§ 172.442 CORROSIVE label.

(a) Except for size and color, the CORROSIVE label must be as follows:



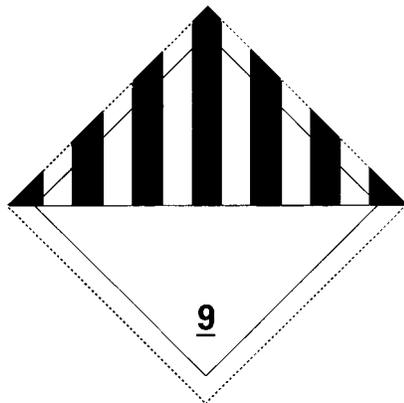
(b) In addition to complying with § 172.407, the background on the CORROSIVE label must be white in the top half and black in the lower half.

[Amdt. 172–123, 56 FR 66259, Dec. 20, 1991]

§ 172.444 [Reserved]

§ 172.446 CLASS 9 label.

(a) Except for size and color, the “CLASS 9” (miscellaneous hazardous materials) label must be as follows:



(b) In addition to complying with § 172.407, the background on the CLASS 9 label must be white with seven black vertical stripes on the top half. The black vertical stripes must be spaced, so that, visually, they appear equal in width to the six white spaces between them. The lower half of the label must be white with the class number "9" underlined and centered at the bottom.

[Amdt. 172-123, 56 FR 66259, Dec. 20, 1991]

§ 172.448 CARGO AIRCRAFT ONLY label.

(a) Except for size and color, the CARGO AIRCRAFT ONLY label must be as follows:

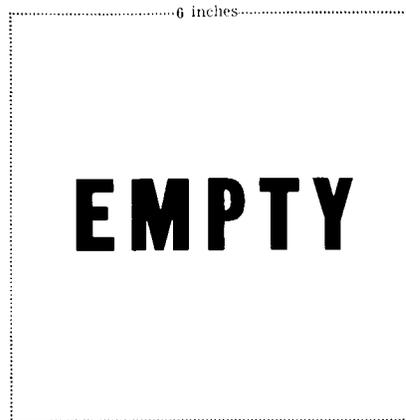


(b) The CARGO AIRCRAFT ONLY label must be black on an orange background.

[Amdt. 172-123, 56 FR 66259, Dec. 20, 1991]

§ 172.450 EMPTY label.

(a) Each EMPTY label, except for size, must be as follows:



(1) Each side must be at least 6 inches (152 mm.) with each letter at least 1 inch (25.4 mm.) in height.

(2) The label must be white with black printing.

(b) [Reserved]

Subpart F—Placarding

§ 172.500 Applicability of placarding requirements.

(a) Each person who offers for transportation or transports any hazardous material subject to this subchapter shall comply with the applicable placarding requirements of this subpart.

(b) This subpart does not apply to—

(1) Infectious substances;
 (2) Hazardous materials classed as ORM-D;

(3) Hazardous materials authorized by this subchapter to be offered for transportation as Limited Quantities when identified as such on shipping papers in accordance with § 172.203(b);

(4) Hazardous materials prepared in accordance with § 173.13 of this subchapter;

(5) Hazardous materials which are packaged as small quantities under the provisions of § 173.4 of this subchapter; and

§ 172.502

(6) Combustible liquids in non-bulk packagings.

[Amdt. 172-123, 55 FR 52599, Dec. 21, 1990, as amended by Amdt. 172-149, 61 FR 27173, May 30, 1996]

§ 172.502 Prohibited and permissive placarding.

(a) *Prohibited placarding.* Except as provided in paragraph (b) of this section, no person may affix or display on a packaging, freight container, unit load device, motor vehicle or rail car—

(1) Any placard described in this subpart unless—

(i) The material being offered or transported is a hazardous material;

(ii) The placard represents a hazard of the hazardous material being offered or transported; and

(iii) Any placarding conforms to the requirements of this subpart.

(2) Any sign, advertisement, slogan (such as “Drive Safely”), or device that, by its color, design, shape or content, could be confused with any placard prescribed in this subpart.

(b) *Exceptions.* (1) The restrictions in paragraph (a) of this section do not apply to a bulk packaging, freight container, unit load device, transport vehicle or rail car which is placarded in conformance with TDG Regulations, the IMDG Code or the UN Recommendations (see §171.7 of this subchapter).

(2) The restrictions of paragraph (a) of this section do not apply to the display of a BIOHAZARD marking, a “HOT” marking, or an identification number on a white square-on-point configuration in accordance with §§172.323(c), 172.325(c), or 172.336(b) of this part, respectively.

(3) The restrictions in paragraph (a)(2) of this section do not apply until October 1, 2001 to a safety sign or safety slogan (e.g., “Drive Safely” or “Drive Carefully”), which was permanently marked on a transport vehicle, bulk packaging, or freight container on or before August 21, 1997.

(c) *Permissive placarding.* Placards may be displayed for a hazardous material, even when not required, if the

49 CFR Ch. I (10-1-03 Edition)

placarding otherwise conforms to the requirements of this subpart.

[Amdt. 172-123, 55 FR 52599, Dec. 21, 1990, as amended at 56 FR 66259, Dec. 20, 1991; Amdt. 172-151, 62 FR 1230, Jan. 8, 1997; 62 FR 39389 and 39407, July 22, 1997; 66 FR 8647, Feb. 1, 2001; 66 FR 33426, June 21, 2001; 67 FR 53137, Aug. 14, 2002]

§ 172.503 Identification number display on placards.

For procedures and limitations pertaining to the display of identification numbers on placards, see §172.334.

[Amdt. 172-58, 45 FR 34701, May 22, 1980]

§ 172.504 General placarding requirements.

(a) *General.* Except as otherwise provided in this subchapter, each bulk packaging, freight container, unit load device, transport vehicle or rail car containing any quantity of a hazardous material must be placarded on each side and each end with the type of placards specified in tables 1 and 2 of this section and in accordance with other placarding requirements of this subpart, including the specifications for the placards named in the tables and described in detail in §§172.519 through 172.560.

(b) *DANGEROUS placard.* A freight container, unit load device, transport vehicle, or rail car which contains non-bulk packages with two or more categories of hazardous materials that require different placards specified in table 2 of paragraph (e) of this section may be placarded with a DANGEROUS placard instead of the separate placarding specified for each of the materials in table 2 of paragraph (e) of this section. However, when 1,000 kg (2,205 pounds) aggregate gross weight or more of one category of material is loaded therein at one loading facility on a freight container, unit load device, transport vehicle, or rail car, the placard specified in table 2 of paragraph (e) of this section for that category must be applied.

(c) *Exception for less than 454 kg (1,001 pounds).* Except for bulk packagings and hazardous materials subject to §172.505, when hazardous materials covered by table 2 of this section are transported by highway or rail, placards are not required on—

(1) A transport vehicle or freight container which contains less than 454 kg (1001 pounds) aggregate gross weight of hazardous materials covered by table 2 of paragraph (e) of this section; or

(2) A rail car loaded with transport vehicles or freight containers, none of which is required to be placarded.

The exceptions provided in paragraph (c) of this section do not prohibit the display of placards in the manner prescribed in this subpart, if not otherwise prohibited (see §172.502), on transport

vehicles or freight containers which are not required to be placarded.

(d) *Exception for empty non-bulk packages.* Except for hazardous materials subject to §172.505, a non-bulk packaging that contains only the residue of a hazardous material covered by Table 2 of paragraph (e) of this section need not be included in determining placarding requirements.

(e) *Placarding tables.* Placards are specified for hazardous materials in accordance with the following tables:

TABLE 1

| Category of material (Hazard class or division number and additional description, as appropriate) | Placard name | Placard design section reference (§) |
|---|--------------------------------|--------------------------------------|
| 1.1 | EXPLOSIVES 1.1 | 172.522 |
| 1.2 | EXPLOSIVES 1.2 | 172.522 |
| 1.3 | EXPLOSIVES 1.3 | 172.522 |
| 2.3 | POISON GAS | 172.540 |
| 4.3 | DANGEROUS WHEN WET | 172.548 |
| 5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled). | ORGANIC PEROXIDE | 172.552 |
| 6.1 (inhalation hazard, Zone A or B) | POISON INHALATION HAZARD | 172.555 |
| 7 (Radioactive Yellow III label only) | RADIOACTIVE ¹ | 172.556 |

¹RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with § 173.427(a) of this subchapter.

TABLE 2

| Category of material (Hazard class or division number and additional description, as appropriate) | Placard name | Placard design section reference (§) |
|---|-------------------------------------|--------------------------------------|
| 1.4 | EXPLOSIVES 1.4 | 172.523 |
| 1.5 | EXPLOSIVES 1.5 | 172.524 |
| 1.6 | EXPLOSIVES 1.6 | 172.525 |
| 2.1 | FLAMMABLE GAS | 172.532 |
| 2.2 | NON-FLAMMABLE GAS | 172.528 |
| 3 | FLAMMABLE | 172.542 |
| Combustible liquid | COMBUSTIBLE | 172.544 |
| 4.1 | FLAMMABLE SOLID | 172.546 |
| 4.2 | SPONTANEOUSLY COMBUSTIBLE | 172.547 |
| 5.1 | OXIDIZER | 172.550 |
| 5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled). | ORGANIC PEROXIDE | 172.552 |
| 6.1 (other than inhalation hazard, Zone A or B) | POISON | 172.554 |
| 6.2 | (None) | |
| 8 | CORROSIVE | 172.558 |
| 9 | Class 9 (see § 172.504(f)(9)) | 172.560 |
| ORM-D | (None) | |

(f) *Additional placarding exceptions.* (1) When more than one division placard is required for Class 1 materials on a transport vehicle, rail car, freight container or unit load device, only the placard representing the lowest division number must be displayed.

(2) A FLAMMABLE placard may be used in place of a COMBUSTIBLE placard on—

- (i) A cargo tank or portable tank.
- (ii) A compartmented tank car which contains both flammable and combustible liquids.

(3) A NON-FLAMMABLE GAS placard is not required on a transport

vehicle which contains non-flammable gas if the transport vehicle also contains flammable gas or oxygen and it is placarded with FLAMMABLE GAS or OXYGEN placards, as required.

(4) OXIDIZER placards are not required for Division 5.1 materials on freight containers, unit load devices, transport vehicles or rail cars which also contain Division 1.1 or 1.2 materials and which are placarded with EXPLOSIVES 1.1 or 1.2 placards, as required.

(5) For transportation by transport vehicle or rail car only, an OXIDIZER placard is not required for Division 5.1 materials on a transport vehicle, rail car or freight container which also contains Division 1.5 explosives and is placarded with EXPLOSIVES 1.5 placards, as required.

(6) The EXPLOSIVE 1.4 placard is not required for those Division 1.4 Compatibility Group S (1.4S) materials that are not required to be labeled 1.4S.

(7) For domestic transportation of oxygen, compressed or oxygen, refrigerated liquid, the OXYGEN placard in §172.530 of this subpart may be used in place of a NON-FLAMMABLE GAS placard.

(8) For domestic transportation, a POISON INHALATION HAZARD placard is not required on a transport vehicle or freight container that is already placarded with the POISON GAS placard.

(9) For domestic transportation, a Class 9 placard is not required. A bulk packaging containing a Class 9 material must be marked with the appropriate identification number displayed on a Class 9 placard, an orange panel or a white-square-on-point display configuration as required by subpart D of this part.

(10) For Division 6.1, PG III materials, a POISON placard may be modified to display the text “PG III” below the mid line of the placard.

(11) For domestic transportation, a POISON placard is not required on a transport vehicle or freight container required to display a POISON INHALATION HAZARD or POISON GAS placard.

(g) For shipments of Class 1 (explosive materials) by aircraft or vessel, the applicable compatibility group let-

ter must be displayed on the placards, or labels when applicable, required by this section. When more than one compatibility group placard is required for Class 1 materials, only one placard is required to be displayed, as provided in paragraphs (g)(1) through (g)(4) of this section. For the purposes of paragraphs (g)(1) through (g)(4), there is a distinction between the phrases *explosive articles* and *explosive substances*. *Explosive article* means an article containing an explosive substance; examples include a detonator, flare, primer or fuse. *Explosive substance* means a substance contained in a packaging that is not contained in an article; examples include black powder and smokeless powder.

(1) Explosive articles of compatibility groups C, D or E may be placarded displaying compatibility group E.

(2) Explosive articles of compatibility groups C, D, E or N may be placarded displaying compatibility group D.

(3) Explosive substances of compatibility groups C and D may be placarded displaying compatibility group D.

(4) Explosive articles of compatibility groups C, D, E or G, except for fireworks, may be placarded displaying compatibility group E.

[Amdt. 172–123, 55 FR 52600, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991; 57 FR 45460, Oct. 1, 1992; Amdt. 172–123, 57 FR 59310, Dec. 15, 1992; Amdt. 172–143, 60 FR 50305, Sept. 28, 1995; Amdt. 172–150, 61 FR 50624, Sept. 26, 1996; Amdt. 172–151, 62 FR 1230, Jan. 8, 1997; 62 FR 39398 and 39407, July 22, 1997; 63 FR 16076, Apr. 1, 1998; 63 FR 52849, Oct. 1, 1998; 64 FR 10776, Mar. 5, 1999; 65 FR 50460, Aug. 18, 2000; 66 FR 33426, June 21, 2001; 68 FR 45031, July 31, 2003; 68 FR 48569, Aug. 14, 2003]

§ 172.505 Placarding for subsidiary hazards.

(a) Each transport vehicle, freight container, portable tank, unit load device, or rail car that contains a poisonous material subject to the “Poison Inhalation Hazard” shipping description of §172.203(m)(2) must be placarded with a POISON INHALATION HAZARD or POISON GAS placard, as appropriate, on each side and each end, in addition to any other placard required

for that material in §172.504. Duplication of the POISON INHALATION HAZARD or POISON GAS placard is not required.

(b) In addition to the RADIOACTIVE placard which may be required by §172.504(e) of this subpart, each transport vehicle, portable tank or freight container that contains 454 kg (1001 pounds) or more gross weight of fissile or low specific activity uranium hexafluoride shall be placarded with a CORROSIVE placard on each side and each end.

(c) Each transport vehicle, portable tank, freight container or unit load device that contains a material which has a subsidiary hazard of being dangerous when wet, as defined in §173.124 of this subchapter, shall be placarded with DANGEROUS WHEN WET placards, on each side and each end, in addition to the placards required by §172.504.

(d) Hazardous materials that possess secondary hazards may exhibit subsidiary placards that correspond to the placards described in this part, even when not required by this part (see also §172.519(b) (4) of this subpart).

[Amdt. 172-123, 55 FR 52601, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991; 57 FR 45460, Oct. 1, 1992; Amdt. 172-127, 59 FR 49133, Sept. 26, 1994; Amdt. 172-151, 62 FR 1231, Jan. 8, 1997; 62 FR 39398, July 22, 1997; 65 FR 58626, Sept. 29, 2000]

§172.506 Providing and affixing placards: Highway.

(a) Each person offering a motor carrier a hazardous material for transportation by highway shall provide to the motor carrier the required placards for the material being offered prior to or at the same time the material is offered for transportation, unless the carrier's motor vehicle is already placarded for the material as required by this subpart.

(1) No motor carrier may transport a hazardous material in a motor vehicle, unless the placards required for the hazardous material are affixed thereto as required by this subpart.

(2) [Reserved]

(b) [Reserved]

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§172.507 Special placarding provisions: Highway.

(a) Each motor vehicle used to transport a package of highway route controlled quantity Class 7 (radioactive) materials (see §173.403 of this subchapter) must have the required RADIOACTIVE warning placard placed on a square background as described in §172.527.

(b) A nurse tank, meeting the provisions of §173.315(m) of this subchapter, is not required to be placarded on an end containing valves, fittings, regulators or gauges when those appurtenances prevent the markings and placard from being properly placed and visible.

[Amdt. 172-103, 51 FR 5971, Feb. 18, 1986, as amended by Amdt. 172-143, 60 FR 50305, Sept. 28, 1995]

§172.508 Placarding and affixing placards: Rail.

(a) Each person offering a hazardous material for transportation by rail shall affix to the rail car containing the material, the placards specified by this subpart. Placards displayed on motor vehicles, transport containers, or portable tanks may be used to satisfy this requirement, if the placards otherwise conform to the provisions of this subpart.

(b) No rail carrier may accept a rail car containing a hazardous material for transportation unless the placards for the hazardous material are affixed thereto as required by this subpart.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-123, 55 FR 52601, Dec. 21, 1990]

§172.510 Special placarding provisions: Rail.

(a) *White square background.* The following must have the specified placards placed on a white square background, as described in §172.527:

(1) Division 1.1 and 1.2 (explosive) materials which require EXPLOSIVES 1.1 or EXPLOSIVES 1.2 placards affixed to the rail car;

(2) Materials classed in Division 2.3 Hazard Zone A or 6.1 Packing Group I Hazard Zone A which require POISON GAS or POISON placards affixed to the

rail car, including tank cars containing only a residue of the material; and

(3) Class DOT 113 tank cars used to transport a Division 2.1 (flammable gas) material, including tank cars containing only a residue of the material.

(b) *Chemical ammunition.* Each rail car containing Division 1.1 or 1.2 (explosive) ammunition which also meets the definition of a material poisonous by inhalation (see §171.8 of this subchapter) must be placarded EXPLOSIVES 1.1 or EXPLOSIVES 1.2 and POISON GAS or POISON INHALATION HAZARD.

[Amdt. 172–29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172–103, 51 FR 5971, Feb. 18, 1986; Amdt. 172–110, 52 FR 29528, Aug. 10, 1987; Amdt. 172–111, 52 FR 36671, Sept. 30, 1987; Amdt. 172–123, 55 FR 52601, Dec. 21, 1990; 56 FR 66260, Dec. 20, 1991; 57 FR 45460, Oct. 1, 1992; Amdt. 172–248, 61 FR 28676, June 5, 1996; Amdt. 172–151, 62 FR 1231, Jan. 8, 1997; 62 FR 39398, July 22, 1997]

§172.512 Freight containers and aircraft unit load devices.

(a) *Capacity of 640 cubic feet or more.* Each person who offers for transportation, and each person who loads and transports, a hazardous material in a freight container or aircraft unit load device having a capacity of 640 cubic feet or more shall affix to the freight container or aircraft unit load device the placards specified for the material in accordance with §172.504. However:

(1) The placarding exception provided in §172.504(c) applies to motor vehicles transporting freight containers and aircraft unit load devices.

(2) The placarding exception provided in §172.504(c) applies to each freight container and aircraft unit load device being transported for delivery to a consignee immediately following an air or water shipment, and,

(3) Placarding is not required on a freight container or aircraft unit load device if it is only transported by air and is identified as containing a hazardous material in the manner provided in part 5, chapter 2, section 2.7, of the ICAO Technical Instructions (see §171.7 of this subchapter).

(b) *Capacity less than 18 m³ (640 cubic feet).* Each person who offers for transportation by air, and each person who loads and transports by air, a hazardous material in a freight container

or aircraft unit load device having a capacity of less than 18 m³ (640 cubic feet) shall affix one placard of the type specified by paragraph (a) of this section unless the freight container or aircraft unit load device:

(1) Is labeled in accordance with subpart E of this part, including §172.406(e);

(2) Contains radioactive materials requiring the Radioactive Yellow III label and is placarded with one Radioactive placard and is labeled in accordance with subpart E of this part, including §172.406(e); or,

(3) Is identified as containing a hazardous material in the manner provided in part 5, chapter 2, section 2.7, of the ICAO Technical Instructions.

When hazardous materials are offered for transportation, not involving air transportation, in a freight container having a capacity of less than 640 cubic feet the freight container need not be placarded. However, if not placarded it must be labeled in accordance with subpart E of this part.

(c) Notwithstanding paragraphs (a) and (b) of this section, packages containing hazardous materials, other than ORM-D, offered for transportation by air in freight containers are subject to the inspection requirements of §175.30 of this chapter.

[Amdt. 172–29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172–29A, 41 FR 40680, Sept. 20, 1976; Amdt. 172–87, 48 FR 53712, Nov. 29, 1983; 48 FR 55469, Dec. 13, 1983; Amdt. 172–103, 51 FR 5971, Feb. 18, 1986; Amdt. 172–111, 52 FR 36671, Sept. 30, 1987; Amdt. 172–123, 55 FR 52601, Dec. 21, 1990; 66 FR 33426, June 21, 2001; 66 FR 45182, Aug. 28, 2001]

§172.514 Bulk packagings.

(a) Except as provided in paragraph (c) of this section, each person who offers for transportation a bulk packaging which contains a hazardous material, shall affix the placards specified for the material in §§172.504 and 172.505.

(b) Each bulk packaging that is required to be placarded when it contains a hazardous material, must remain placarded when it is emptied, unless it is—

(1) Sufficiently cleaned of residue and purged of vapors to remove any potential hazard; or

(2) Refilled, with a material requiring different placards or no placards, to such an extent that any residue remaining in the packaging is no longer hazardous.

(c) Exceptions. The following packagings may be placarded on only two opposite sides or, alternatively, may be labeled instead of placarded in accordance with subpart E of this part:

(1) A portable tank having a capacity of less than 3,785 L (1000 gallons);

(2) A DOT 106 or 110 multi-unit tank car tank;

(3) A bulk packaging other than a portable tank, cargo tank, or tank car (e.g., a bulk bag or box) with a volumetric capacity of less than 18 m³ (640 cubic feet); and

(4) An IBC.

[Amdt. 172-136, 59 FR 38064, July 26, 1994; Amdt. 172-148, 61 FR 50255, Sept. 25, 1996, as amended by 66 FR 45379, Aug. 28, 2001]

§ 172.516 Visibility and display of placards.

(a) Each placard on a motor vehicle and each placard on a rail car must be clearly visible from the direction it faces, except from the direction of another transport vehicle or rail car to which the motor vehicle or rail car is coupled. This requirement may be met by the placards displayed on the freight containers or portable tanks loaded on a motor vehicle or rail car.

(b) The required placarding of the front of a motor vehicle may be on the front of a truck-tractor instead of or in addition to the placarding on the front of the cargo body to which a truck-tractor is attached.

(c) Each placard on a transport vehicle, bulk packaging, freight container or aircraft unit load device must—

(1) Be securely attached or affixed thereto or placed in a holder thereon. (See appendix C to this part.);

(2) Be located clear of appurtenances and devices such as ladders, pipes, doors, and tarpaulins;

(3) So far as practicable, be located so that dirt or water is not directed to it from the wheels of the transport vehicle;

(4) Be located away from any marking (such as advertising) that could substantially reduce its effectiveness,

and in any case at least 3 inches (76.0 mm.) away from such marking;

(5) Have the words or identification number (when authorized) printed on it displayed horizontally, reading from left to right;

(6) Be maintained by the carrier in a condition so that the format, legibility, color, and visibility of the placard will not be substantially reduced due to damage, deterioration, or obscurement by dirt or other matter;

(7) Be affixed to a background of contrasting color, or must have a dotted or solid line outer border which contrasts with the background color.

(d) Recommended specifications for a placard holder are set forth in appendix C of this part. Except for a placard holder similar to that contained in appendix C to this part, the means used to attach a placard may not obscure any part of its surface other than the borders.

(e) A placard or placard holder may be hinged provided the required format, color, and legibility of the placard are maintained.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-101, 45 FR 74668, Nov. 10, 1980; Amdt. 172-123, 55 FR 52601, Dec. 21, 1990; 65 FR 50460, Aug. 18, 2000]

§ 172.519 General specifications for placards.

(a) *Strength and durability.* Placards must conform to the following:

(1) A placard may be made of any plastic, metal or other material capable of withstanding, without deterioration or a substantial reduction in effectiveness, a 30-day exposure to open weather conditions.

(2) A placard made of tagboard must be at least equal to that designated commercially as white tagboard. Tagboard must have a weight of at least 80 kg (176 pounds) per ream of 610 by 910 mm (24 by 36-inch) sheets, waterproofing materials included. In addition, each placard made of tagboard must be able to pass a 414 kPa (60 p.s.i.) Mullen test.

(3) Reflective or retroreflective materials may be used on a placard if the prescribed colors, strength and durability are maintained.

(b) *Design.* (1) Except as provided in § 172.332 of this part, each placard must

be as described in this subpart, and except for size and color, the printing, inner border and symbol must be as shown in §§ 172.521 through 172.560 of this subpart, as appropriate.

(2) The dotted line border shown on each placard is not part of the placard specification. However, a dotted or solid line outer border may be used when needed to indicate the full size of a placard that is part of a larger format or is on a background of a non-contrasting color.

(3) For other than Class 7 or the DANGEROUS placard, text indicating a hazard (for example, “FLAMMABLE”) is not required. Text may be omitted from the OXYGEN placard only if the specific identification number is displayed on the placard.

(4) For a placard corresponding to the primary or subsidiary hazard class of a material, the hazard class or division number must be displayed in the lower corner of the placard. However, a permanently affixed subsidiary placard meeting the specifications of this section which were in effect on October 1, 2001, (such as, a placard without the hazard class or division number displayed in the lower corner of the placard) and which was installed prior to September 30, 2001, may continue to be used as a subsidiary placard in domestic transportation by rail or highway, provided the color tolerances are maintained and are in accordance with the display requirements in this subchapter. Stocks of non-permanently affixed subsidiary placards in compliance with the requirements in effect on September 30, 2001, may continue to be used in domestic transportation by rail or highway until October 1, 2005, or until current stocks are depleted, whichever occurs first.

(c) *Size.* (1) Each placard prescribed in this subpart must measure at least 273 mm (10.8 inches) on each side and must have a solid line inner border approximately 12.7 mm (0.5 inches) from each edge.

(2) Except as otherwise provided in this subpart, the hazard class or division number, as appropriate, must be shown in numerals measuring at least 41 mm (1.6 inches) in height.

(3) Except as otherwise provided in this subpart, when text indicating a

hazard is displayed on a placard, the printing must be in letters measuring at least 41 mm (1.6 inches) in height.

(d) *Color.* (1) The background color, symbol, text, numerals and inner border on a placard must be as specified in §§ 172.521 through 172.560 of this subpart, as appropriate.

(2) Black and any color on a placard must be able to withstand, without substantial change—

(i) A 72-hour fadeometer test (for a description of equipment designed for this purpose, see ASTM G 23–69 or ASTM G 26–70); and

(ii) A 30-day exposure to open weather.

(3) Upon visual examination, a color on a placard must fall within the color tolerances displayed on the appropriate Hazardous Materials Label and Placard Color Tolerance Chart (see § 172.407(d)(4)).

(4) The placard color must extend to the inner border and may extend to the edge of the placard in the area designated on each placard except the color on the CORROSIVE and RADIOACTIVE placards (black and yellow, respectively) must extend only to the inner border.

(e) *Form identification.* A placard may contain form identification information, including the name of its maker, provided that information is printed outside of the solid line inner border in no larger than 10-point type.

(f) *Exceptions.* When hazardous materials are offered for transportation or transported under the provisions of §§ 171.11, 171.12, or 171.12a of this subchapter, a placard conforming to the specifications in the ICAO Technical Instructions, the IMDG Code, or the TDG Regulations, respectively, may be used in place of a corresponding placard that conforms to the requirements of this subpart, except that a bulk packaging, transport vehicle, or freight container containing a material poisonous by inhalation (see § 171.8 of this subchapter) must be placarded in accordance with this subpart (see §§ 171.12(b)(8), 171.12(e) and 171.12a(b)(5) of this subchapter).

(g) *Trefoil symbol.* The trefoil symbol on the RADIOACTIVE placard must

meet the appropriate specification in appendix B of this part.

[Amdt. 172-123, 55 FR 52601, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991; 57 FR 45460, Oct. 1, 1992; Amdt. 172-143, 60 FR 50305, Sept. 28, 1995; 65 FR 50460, Aug. 18, 2000; 66 FR 33426, June 21, 2001; 66 FR 44255, Aug. 22, 2001; 67 FR 15743, Apr. 3, 2002]

§ 172.521 DANGEROUS placard.

(a) Except for size and color, the DANGEROUS placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and appendix B to this part, the DANGEROUS placard must have a red upper and lower triangle. The placard center area and 1/2-inch (12.7 mm.) border must be white. The inscription must be black with the 1/8-inch (3.2 mm.) border marker in the white area at each end of the inscription red.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.522 EXPLOSIVES 1.1, EXPLOSIVES 1.2 and EXPLOSIVES 1.3 placards.

(a) Except for size and color, the EXPLOSIVES 1.1, EXPLOSIVES 1.2 and EXPLOSIVES 1.3 placards must be as follows:



(b) In addition to complying with § 172.519 of this subpart, the background color on the EXPLOSIVES 1.1, EXPLOSIVES 1.2, and EXPLOSIVES 1.3 placards must be orange. The "*" shall be replaced with the appropriate division number and, when required, appropriate compatibility group letter. The symbol, text, numerals and inner border must be black.

[Amdt. 172-123, 55 FR 52602, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991]

§ 172.523 EXPLOSIVES 1.4 placard.

(a) Except for size and color, the EXPLOSIVES 1.4 placard must be as follows:



(b) In addition to complying with § 172.519 of this subpart, the background color on the EXPLOSIVES 1.4 placard

§ 172.524

must be orange. The “*” shall be replaced, when required, with the appropriate compatibility group letter. The division numeral, 1.4, must measure at least 64 mm (2.5 inches) in height. The text, numerals and inner border must be black.

[Amdt. 172-123, 55 FR 52602, Dec. 21, 1990, as amended at 56 FR 66261, Dec. 20, 1991]

§ 172.524 EXPLOSIVES 1.5 placard.

(a) Except for size and color, the EXPLOSIVES 1.5 placard must be as follows:



(b) In addition to complying with the § 172.519 of this subpart, the background color on EXPLOSIVES 1.5 placard must be orange. The “*” shall be replaced, when required, with the appropriate compatibility group letter. The division numeral, 1.5, must measure at least 64 mm (2.5 inches) in height. The text, numerals and inner border must be black.

[Amdt. 172-123, 55 FR 52602, Dec. 21, 1990, as amended at 56 FR 66261, Dec. 20, 1991]

49 CFR Ch. I (10-1-03 Edition)

§ 172.525 EXPLOSIVES 1.6 placard.

(a) Except for size and color the EXPLOSIVES 1.6 placard must be as follows:



(b) In addition to complying with § 172.519 of this subpart, the background color on the EXPLOSIVES 1.6 placard must be orange. The “*” shall be replaced, when required, with the appropriate compatibility group letter. The division numeral, 1.6, must measure at least 64 mm (2.5 inches) in height. The text, numerals and inner border must be black.

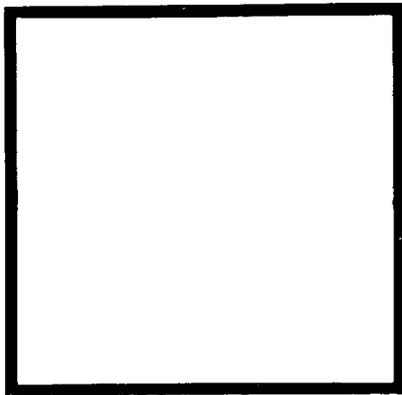
[Amdt. 172-123, 55 FR 52603, Dec. 21, 1990, as amended at 56 FR 66261, Dec. 20, 1991; Amdt. 172-130, 58 FR 51531, Oct. 1, 1993]

§ 172.526 [Reserved]

§ 172.527 Background requirements for certain placards.

(a) Except for size and color, the square background required by § 172.510(a) for certain placards on rail cars, and § 172.507 for placards on motor

vehicles containing a package of highway route controlled quantity radioactive materials, must be as follows:



(b) In addition to meeting the requirements of §172.519 for minimum durability and strength, the square background must consist of a white square measuring 14¼ inches (362.0 mm.) on each side surrounded by a black border extending to 15¼ inches (387.0 mm.) on each side.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-64, 46 FR 5316, Jan. 19, 1981; Amdt. 172-78, 48 FR 10226, Mar. 10, 1983]

§ 172.528 NON-FLAMMABLE GAS placard.

(a) Except for size and color, the NON-FLAMMABLE GAS placard must be as follows:



(b) In addition to complying with §172.519, the background color on the NON-FLAMMABLE GAS placard must be green. The letters in both words must be at least 38 mm (1.5 inches) high. The symbol, text, class number and inner border must be white.

[Amdt. 172-123, 56 FR 66261, Dec. 20, 1991]

§ 172.530 OXYGEN placard.

(a) Except for size and color, the OXYGEN placard must be as follows:



(b) In addition to complying with §172.519 of this subpart, the background color on the OXYGEN placard must be yellow. The symbol, text, class number and inner border must be black.

[Amdt. 172-123, 56 FR 66262, Dec. 20, 1991]

§ 172.532

49 CFR Ch. I (10-1-03 Edition)

§ 172.532 FLAMMABLE GAS placard.

(a) Except for size and color, the FLAMMABLE GAS placard must be as follows:



(b) In addition to complying with § 172.519, the background color on the FLAMMABLE GAS placard must be red. The symbol, text, class number and inner border must be white.

[Amdt. 172-123, 56 FR 66262, Dec. 20, 1991]

§ 172.536 [Reserved]

§ 172.540 POISON GAS placard.

(a) Except for size and color, the POISON GAS placard must be as follows:



(b) In addition to complying with § 172.519, the background on the POISON GAS placard and the symbol must be white. The background of the upper diamond must be black and the lower point of the upper diamond must be 65 mm (2⁵/₈ inches) above the horizontal center line. The text, class number, and inner border must be black.

[62 FR 39408, July 22, 1997]

§ 172.542 FLAMMABLE placard.

(a) Except for size and color, the FLAMMABLE placard must be as follows:



(b) In addition to complying with § 172.519, the background color on the FLAMMABLE placard must be red. The symbol, text, class number and inner border must be white.

(c) The word "GASOLINE" may be used in place of the word "FLAMMABLE" on a placard that is displayed on a cargo tank or a portable tank being used to transport gasoline by highway. The word "GASOLINE" must be shown in white.

[Amdt. 172-123, 56 FR 66262, Dec. 20, 1991]

§ 172.544 COMBUSTIBLE placard.

(a) Except for size and color, the COMBUSTIBLE placard must be as follows:



(b) In addition to complying with §172.519, the background color on the COMBUSTIBLE placard must be red. The symbol, text, class number and inner border must be white. On a COMBUSTIBLE placard with a white bottom as prescribed by §172.332(c)(4), the class number must be red or black.

(c) The words "FUEL OIL" may be used in place of the word "COMBUSTIBLE" on a placard that is displayed on a cargo tank or portable tank being used to transport by highway fuel oil that is not classed as a flammable liquid. The words "FUEL OIL" must be white.

[Amdt. 172-123, 56 FR 66262, Dec. 20, 1991]

§ 172.546 FLAMMABLE SOLID placard.

(a) Except for size and color, the FLAMMABLE SOLID placard must be as follows:



(b) In addition to complying with §172.519, the background on the FLAMMABLE SOLID placard must be white with seven vertical red stripes. The stripes must be equally spaced, with one red stripe placed in the center of the label. Each red stripe and each white space between two red stripes must be 25 mm (1.0 inches) wide. The letters in the word "SOLID" must be at least 38.1 mm (1.5 inches) high. The symbol, text, class number and inner border must be black.

[Amdt. 172-123, 56 FR 66263, Dec. 20, 1991]

§ 172.547 SPONTANEOUSLY COMBUSTIBLE placard.

(a) Except for size and color, the SPONTANEOUSLY COMBUSTIBLE placard must be as follows:



(b) In addition to complying with §172.519, the background color on the SPONTANEOUSLY COMBUSTIBLE placard must be red in the lower half and white in upper half. The letters in the word "SPONTANEOUSLY" must be at least 12 mm (0.5 inch) high. The symbol, text, class number and inner border must be black.

[Amdt. 172-123, 56 FR 66263, Dec. 20, 1991, as amended by Amdt. 172-139, 59 FR 67490, Dec. 29, 1994]

§ 172.548 DANGEROUS WHEN WET placard.

(a) Except for size and color, the DANGEROUS WHEN WET placard must be as follows:



(b) In addition to complying with §172.519, the background color on the DANGEROUS WHEN WET placard must be blue. The letters in the words "WHEN WET" must be at least 25 mm (1.0 inches) high. The symbol, text, class number and inner border must be white.

[Amdt. 172-123, 56 FR 66263, Dec. 20, 1991]

§ 172.550 OXIDIZER placard.

(a) Except for size and color, the OXIDIZER placard must be as follows:

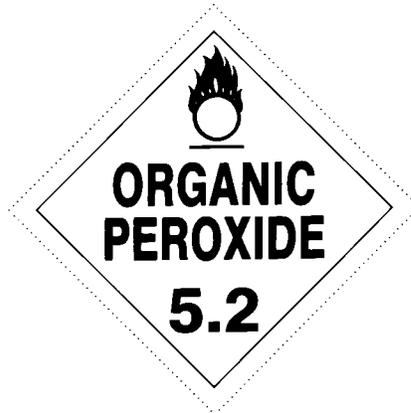


(b) In addition to complying with §172.519, the background color on the OXIDIZER placard must be yellow. The symbol, text, division number and inner border must be black.

[Amdt. 172-123, 56 FR 66263, Dec. 20, 1991]

§ 172.552 ORGANIC PEROXIDE placard.

(a) Except for size and color, the ORGANIC PEROXIDE placard must be as follows:



(b) In addition to complying with §172.519, the background color on the ORGANIC PEROXIDE placard must be yellow. The symbol, text, division number and inner border must be black.

[Amdt. 172-123, 56 FR 66263, Dec. 20, 1991]

§ 172.553 [Reserved]

§ 172.554 POISON placard.

(a) Except for size and color, the POISON placard must be as follows:



(b) In addition to complying with §172.519, the background on the POISON placard must be white. The symbol, text, class number and inner border must be black. The word "TOXIC" may be used in lieu of the word "POISON".

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991, as amended by Amdt. 172-139, 59 FR 67490, Dec. 29, 1994]

§172.555 POISON INHALATION HAZARD placard.

(a) Except for size and color, the POISON INHALATION HAZARD placard must be as follows:



(b) In addition to complying with §172.519, the background on the POISON INHALATION HAZARD placard and the symbol must be white. The background of the upper diamond must be black and the lower point of the upper diamond must be 65 mm (2 5/8 inches) above the horizontal center line. The text, class number, and inner border must be black.

[62 FR 39409, July 22, 1997]

§172.556 RADIOACTIVE placard.

(a) Except for size and color, the RADIOACTIVE placard must be as follows:



(b) In addition to complying with §172.519, the background color on the RADIOACTIVE placard must be white in the lower portion with a yellow triangle in the upper portion. The base of the yellow triangle must be 29 mm ± 5 mm (1.1 inches ±0.2 inches) above the placard horizontal center line. The

symbol, text, class number and inner border must be black.

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991; Amdt. 172-130, 58 FR 51531, Oct. 1, 1993; 65 FR 58627, Sept. 29, 2000]

§172.558 CORROSIVE placard.

(a) Except for size and color, the CORROSIVE placard must be as follows:

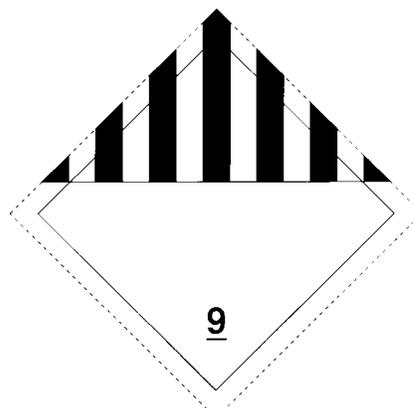


(b) In addition to complying with §172.519, the background color on the CORROSIVE placard must be black in the lower portion with a white triangle in the upper portion. The base of the white triangle must be 38 mm ± 5 mm (1.5 inches ± 0.2 inches) above the placard horizontal center line. The text and class number must be white. The symbol and inner border must be black.

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991, as amended at 65 FR 58627, Sept. 29, 2000]

§ 172.560 CLASS 9 placard.

(a) Except for size and color the CLASS 9 (miscellaneous hazardous materials) placard must be as follows:



(b) In addition to conformance with § 172.519, the background on the CLASS 9 placard must be white with seven black vertical stripes on the top half extending from the top of the placard to one inch above the horizontal centerline. The black vertical stripes must be spaced so that, visually, they appear equal in width to the six white spaces between them. The space below the vertical lines must be white with the class number 9 underlined and centered at the bottom.

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991, as amended at 57 FR 45460, Oct. 1, 1992]

Subpart G—Emergency Response Information

§ 172.600 Applicability and general requirements.

(a) *Scope.* Except as provided in paragraph (d) of this section, this subpart prescribes requirements for providing and maintaining emergency response information during transportation and at facilities where hazardous materials are loaded for transportation, stored incidental to transportation or otherwise handled during any phase of transportation.

(b) *Applicability.* This subpart applies to persons who offer for transportation, accept for transportation, transfer or otherwise handle hazardous materials during transportation.

(c) *General requirements.* No person to whom this subpart applies may offer for transportation, accept for transportation, transfer, store or otherwise handle during transportation a hazardous material unless:

(1) Emergency response information conforming to this subpart is immediately available for use at all times the hazardous material is present; and

(2) Emergency response information, including the emergency response telephone number, required by this subpart is immediately available to any person who, as a representative of a Federal, State or local government agency, responds to an incident involving a hazardous material, or is conducting an investigation which involves a hazardous material.

(d) *Exceptions.* The requirements of this subpart do not apply to hazardous material which is excepted from the

shipping paper requirements of this subchapter or a material properly classified as an ORM-D.

[Amdt. 172-116, 54 FR 27145, June 27, 1989; 54 FR 28750, July 5, 1989, as amended at 55 FR 33712, Aug. 17, 1990; 172-127, 59 FR 49133, Sept. 26, 1994; Amdt. 172-149, 61 FR 27173, May 30, 1996]

§ 172.602 Emergency response information.

(a) *Information required.* For purposes of this subpart, the term “emergency response information” means information that can be used in the mitigation of an incident involving hazardous materials and, as a minimum, must contain the following information:

(1) The basic description and technical name of the hazardous material as required by §§ 172.202 and 172.203(k), the ICAO Technical Instructions, the IMDG Code, or the TDG Regulations, as appropriate (see § 171.7 of this subchapter);

(2) Immediate hazards to health;

(3) Risks of fire or explosion;

(4) Immediate precautions to be taken in the event of an accident or incident;

(5) Immediate methods for handling fires;

(6) Initial methods for handling spills or leaks in the absence of fire; and

(7) Preliminary first aid measures.

(b) *Form of information.* The information required for a hazardous material by paragraph (a) of this section must be:

(1) Printed legibly in English;

(2) Available for use away from the package containing the hazardous material; and

(3) Presented—

(i) On a shipping paper;

(ii) In a document, other than a shipping paper, that includes both the basic description and technical name of the hazardous material as required by §§ 172.202 and 172.203(k), the ICAO Technical Instructions, the IMDG Code, or the TDG Regulations, as appropriate, and the emergency response information required by this subpart (e.g., a material safety data sheet); or

(iii) Related to the information on a shipping paper, a written notification to pilot-in-command, or a dangerous cargo manifest, in a separate document

(e.g., an emergency response guidance document), in a manner that cross-references the description of the hazardous material on the shipping paper with the emergency response information contained in the document. Aboard aircraft, the ICAO "Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods" and, aboard vessels, the IMO "Emergency Procedures for Ships Carrying Dangerous Goods", or equivalent documents, may be used to satisfy the requirements of this section for a separate document.

(c) *Maintenance of information.* Emergency response information shall be maintained as follows:

(1) *Carriers.* Each carrier who transports a hazardous material shall maintain the information specified in paragraph (a) of this section and § 172.606 of this part in the same manner as prescribed for shipping papers, except that the information must be maintained in the same manner aboard aircraft as the notification of pilot-in-command, and aboard vessels in the same manner as the dangerous cargo manifest. This information must be immediately accessible to train crew personnel, drivers of motor vehicles, flight crew members, and bridge personnel on vessels for use in the event of incidents involving hazardous materials.

(2) *Facility operators.* Each operator of a facility where a hazardous material is received, stored or handled during transportation, shall maintain the information required by paragraph (a) of this section whenever the hazardous material is present. This information must be in a location that is immediately accessible to facility personnel in the event of an incident involving the hazardous material.

[Amdt. 172-116, 54 FR 27146, June 27, 1989; 54 FR 28750, July 5, 1989, as amended by Amdt. 172-116, 55 FR 875, Jan. 10, 1990; Amdt. 172-151, 62 FR 1234, Jan. 8, 1997; 66 FR 45379, Aug. 28, 2001]

§ 172.604 Emergency response telephone number.

(a) A person who offers a hazardous material for transportation must provide an emergency response telephone number, including the area code or international access code, for use in

the event of an emergency involving the hazardous material. The telephone number must be—

(1) Monitored at all times the hazardous material is in transportation, including storage incidental to transportation;

(2) The number of a person who is either knowledgeable of the hazardous material being shipped and has comprehensive emergency response and incident mitigation information for that material, or has immediate access to a person who possesses such knowledge and information; and

(3) Entered on a shipping paper, as follows:

(i) Immediately following the description of the hazardous material required by subpart C of this part; or

(ii) Entered once on the shipping paper in a clearly visible location. This provision may be used only if the telephone number applies to each hazardous material entered on the shipping paper, and if it is indicated that the telephone number is for emergency response information (for example: "EMERGENCY CONTACT: * * *").

(b) The telephone number required by paragraph (a) of this section must be the number of the person offering the hazardous material for transportation or the number of an agency or organization capable of, and accepting responsibility for, providing the detailed information concerning the hazardous material. A person offering a hazardous material for transportation who lists the telephone number of an agency or organization shall ensure that agency or organization has received current information on the material, as required by paragraph (a)(2) of this section before it is offered for transportation.

(c) The requirements of this section do not apply to—

(1) Hazardous materials that are offered for transportation under the provisions applicable to limited quantities; and

(2) Materials properly described under the following shipping names:

Battery powered equipment
 Battery powered vehicle
 Carbon dioxide, solid
 Castor bean
 Castor flake

§ 172.606

Castor meal
Castor pomace
Consumer commodity
Dry ice
Engines, internal combustion
Fish meal, stabilized
Fish scrap, stabilized
Refrigerating machine
Vehicle, flammable gas powered
Vehicle, flammable liquid powered
Wheelchair, electric

[Amdt. 172-116, 54 FR 27145, June 27, 1989, as amended at 55 FR 33713, Aug. 17, 1990; Amdt. 172-127, 59 FR 49133, Sept. 26, 1994; Amdt. 172-149, 61 FR 27173, May 30, 1996; 65 FR 50460, Aug. 18, 2000; 65 FR 58628, Sept. 29, 2000; 66 FR 45182, Aug. 28, 2001]

§ 172.606 Carrier information contact.

(a) Each carrier who transports or accepts for transportation a hazardous material for which a shipping paper is required shall instruct the operator of a motor vehicle, train, aircraft, or vessel to contact the carrier (e.g., by telephone or mobile radio) in the event of an incident involving the hazardous material.

(b) For transportation by highway, if a transport vehicle, (e.g., a semi-trailer or freight container-on-chassis) contains hazardous material for which a shipping paper is required and the vehicle is separated from its motive power and parked at a location other than a facility operated by the consignor or consignee or a facility (e.g., a carrier's terminal or a marine terminal) subject to the provisions of §172.602(c)(2), the carrier shall—

(1) Mark the transport vehicle with the telephone number of the motor carrier on the front exterior near the brake hose and electrical connections or on a label, tag, or sign attached to the vehicle at the brake hose or electrical connection; or

(2) Have the shipping paper and emergency response information readily available on the transport vehicle.

(c) The requirements specified in paragraph (b) of this section do not apply to an unattended motor vehicle separated from its motive power when the motor vehicle is marked on an orange panel, a placard, or a plain white square-on-point configuration with the identification number of each hazardous material loaded therein, and the

49 CFR Ch. I (10-1-03 Edition)

marking or placard is visible on the outside of the motor vehicle.

[Amdt. 172-151, 62 FR 1234, Jan. 8, 1997, as amended at 62 FR 39398 and 39409, July 22, 1997; 63 FR 16076, Apr. 1, 1998]

Subpart H—Training

SOURCE: Amdt. 172-126, 57 FR 20952, May 15, 1992, unless otherwise noted.

§ 172.700 Purpose and scope.

(a) *Purpose.* This subpart prescribes requirements for training hazmat employees.

(b) *Scope.* Training as used in this subpart means a systematic program that ensures a hazmat employee has familiarity with the general provisions of this subchapter, is able to recognize and identify hazardous materials, has knowledge of specific requirements of this subchapter applicable to functions performed by the employee, and has knowledge of emergency response information, self-protection measures and accident prevention methods and procedures (see §172.704).

(c) *Modal-specific training requirements.* Additional training requirements for the individual modes of transportation are prescribed in parts 174, 175, 176, and 177 of this subchapter.

§ 172.701 Federal-State relationship.

This subpart and the parts referenced in §172.700(c) prescribe minimum training requirements for the transportation of hazardous materials. For motor vehicle drivers, however, a State may impose more stringent training requirements only if those requirements—

(a) Do not conflict with the training requirements in this subpart and in part 177 of this subchapter; and

(b) Apply only to drivers domiciled in that State.

§ 172.702 Applicability and responsibility for training and testing.

(a) A hazmat employer shall ensure that each of its hazmat employees is trained in accordance with the requirements prescribed in this subpart.

(b) Except as provided in §172.704(c)(1), a hazmat employee who performs any function subject to the

requirements of this subchapter may not perform that function unless instructed in the requirements of this subchapter that apply to that function. It is the duty of each hazmat employer to comply with the applicable requirements of this subchapter and to thoroughly instruct each hazmat employee in relation thereto.

(c) Training may be provided by the hazmat employer or other public or private sources.

(d) A hazmat employer shall ensure that each of its hazmat employees is tested by appropriate means on the training subjects covered in §172.704.

[Amdt. 172-126, 57 FR 20952, May 15, 1992; 57 FR 22182, May 27, 1992, as amended by Amdt. 172-149, 61 FR 27173, May 30, 1996]

§ 172.704 Training requirements.

(a) Hazmat employee training must include the following:

(1) *General awareness/familiarization training.* Each hazmat employee shall be provided general awareness/familiarization training designed to provide familiarity with the requirements of this subchapter, and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards of this subchapter.

(2) *Function-specific training.* (i) Each hazmat employee shall be provided function-specific training concerning requirements of this subchapter, or exemptions issued under subchapter A of this chapter, which are specifically applicable to the functions the employee performs.

(ii) As an alternative to function-specific training on the requirements of this subchapter, training relating to the requirements of the ICAO Technical Instructions and the IMDG Code may be provided to the extent such training addresses functions authorized by §§ 171.11 and 171.12 of this subchapter.

(3) *Safety training.* Each hazmat employee shall receive safety training concerning—

(i) Emergency response information required by subpart G of part 172;

(ii) Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the work place, including

specific measures the hazmat employer has implemented to protect employees from exposure; and

(iii) Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials.

(4) *Security awareness training.* No later than the date of the first scheduled recurrent training after March 25, 2003, and in no case later than March 24, 2006, each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. After March 25, 2003, new hazmat employees must receive the security awareness training required by this paragraph within 90 days after employment.

(5) *In-depth security training.* By December 22, 2003, each hazmat employee of a person required to have a security plan in accordance with subpart I of this part must be trained concerning the security plan and its implementation. Security training must include company security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organizational security structure.

(b) *OSHA, EPA, and other training.* Training conducted by employers to comply with the hazard communication programs required by the Occupational Safety and Health Administration of the Department of Labor (29 CFR 1910.120 or 1910.1200) or the Environmental Protection Agency (40 CFR 311.1), or training conducted by employers to comply with security training programs required by other Federal or international agencies, may be used to satisfy the training requirements in paragraph (a) of this section to the extent that such training addresses the training components specified in paragraph (a) of this section.

(c) *Initial and recurrent training—(1) Initial training.* A new hazmat employee, or a hazmat employee who changes job functions may perform

those functions prior to the completion of training provided—

(i) The employee performs those functions under the direct supervision of a properly trained and knowledgeable hazmat employee; and

(ii) The training is completed within 90 days after employment or a change in job function.

(2) *Recurrent training.* A hazmat employer shall receive the training required by this subpart at least once every three years.

(3) *Relevant Training.* Relevant training received from a previous employer or other source may be used to satisfy the requirements of this subpart provided a current record of training is obtained from hazmat employees' previous employer.

(4) *Compliance.* Each hazmat employer is responsible for compliance with the requirements of this subchapter regardless of whether the training required by this subpart has been completed.

(d) *Recordkeeping.* A record of current training, inclusive of the preceding three years, in accordance with this section shall be created and retained by each hazmat employer for as long as that employee is employed by that employer as a hazmat employee and for 90 days thereafter. The record shall include:

- (1) The hazmat employee's name;
- (2) The most recent training completion date of the hazmat employee's training;
- (3) A description, copy, or the location of the training materials used to meet the requirements in paragraph (a) of this section;
- (4) The name and address of the person providing the training; and
- (5) Certification that the hazmat employee has been trained and tested, as required by this subpart.

(e) *Limitation.* A hazmat employee who repairs, modifies, reconditions, or tests packagings as qualified for use in the transportation of hazardous materials, and who does not perform any other function subject to the requirements of this subchapter, is not subject

to the safety training requirement of paragraph (a)(3) of this section.

[Amdt. 172-126, 57 FR 20952, May 15, 1992, as amended by Amdt. 172-126, 58 FR 5851, Jan. 22, 1993; Amdt. 172-145, 60 FR 49110, Sept. 21, 1995; Amdt. 172-149, 61 FR 27173, May 30, 1996; 65 FR 50460, Aug. 18, 2000; 68 FR 14521, Mar. 25, 2003]

Subpart I—Security Plans

SOURCE: 68 FR 14521, Mar. 25, 2003, unless otherwise noted.

172.800 Purpose and applicability.

(a) *Purpose.* This subpart prescribes requirements for development and implementation of plans to address security risks related to the transportation of hazardous materials in commerce.

(b) *Applicability.* By September 25, 2003, each person who offers for transportation in commerce or transports in commerce one or more of the following hazardous materials must develop and adhere to a security plan for hazardous materials that conforms to the requirements of this subpart:

(1) A highway route-controlled quantity of a Class 7 (radioactive) material, as defined in §173.403 of this subchapter, in a motor vehicle, rail car, or freight container;

(2) More than 25 kg (55 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car, or freight container;

(3) More than one L (1.06 qt) per package of a material poisonous by inhalation, as defined in §171.8 of this subchapter, that meets the criteria for Hazard Zone A, as specified in §§173.116(a) or 173.133(a) of this subchapter;

(4) A shipment of a quantity of hazardous materials in a bulk packaging having a capacity equal to or greater than 13,248 L (3,500 gallons) for liquids or gases or more than 13.24 cubic meters (468 cubic feet) for solids;

(5) A shipment in other than a bulk packaging of 2,268 kg (5,000 pounds) gross weight or more of one class of hazardous materials for which placarding of a vehicle, rail car, or freight container is required for that class under the provisions of subpart F of this part;

(6) A select agent or toxin regulated by the Centers for Disease Control and Prevention under 42 CFR part 73; or

(7) A quantity of hazardous material that requires placarding under the provisions of subpart F of this part.

§ 172.802 Components of a security plan.

(a) The security plan must include an assessment of possible transportation security risks for shipments of the hazardous materials listed in § 172.800 and appropriate measures to address the assessed risks. Specific measures put into place by the plan may vary commensurate with the level of threat at a particular time. At a minimum, a security plan must include the following elements:

(1) *Personnel security.* Measures to confirm information provided by job applicants hired for positions that involve access to and handling of the hazardous materials covered by the security plan. Such confirmation system must be consistent with applicable Federal and State laws and requirements concerning employment practices and individual privacy.

(2) *Unauthorized access.* Measures to address the assessed risk that unauthorized persons may gain access to the hazardous materials covered by the security plan or transport conveyances being prepared for transportation of the hazardous materials covered by the security plan.

(3) *En route security.* Measures to address the assessed security risks of shipments of hazardous materials covered by the security plan en route from origin to destination, including shipments stored incidental to movement.

(b) The security plan must be in writing and must be retained for as long as it remains in effect. Copies of the security plan, or portions thereof, must be available to the employees who are responsible for implementing it, consistent with personnel security clearance or background investigation re-

strictions and a demonstrated need to know. The security plan must be revised and updated as necessary to reflect changing circumstances. When the security plan is updated or revised, all copies of the plan must be maintained as of the date of the most recent revision.

§ 172.804 Relationship to other Federal requirements.

To avoid unnecessary duplication of security requirements, security plans that conform to regulations, standards, protocols, or guidelines issued by other Federal agencies, international organizations, or industry organizations may be used to satisfy the requirements in this subpart, provided such security plans address the requirements specified in this subpart.

APPENDIX A TO PART 172—OFFICE OF HAZARDOUS MATERIALS TRANSPORTATION COLOR TOLERANCE CHARTS AND TABLES

The following are Munsell notations and Commission Internationale de L'Eclairage (CIE) coordinates which describe the Office of Hazardous Materials Transportation Label and Placard Color Tolerance Charts in tables 1 and 2, and the CIE coordinates for the color tolerances specified in table 3. Central colors and tolerances described in table 2 approximate those described in table 1 while allowing for differences in production methods and materials used to manufacture labels and placards surfaced with printing inks. Primarily, the color charts based on table 1 are for label or placard colors applied as opaque coatings such as paint, enamel or plastic, whereas color charts based on table 2 are intended for use with labels and placards surfaced only with inks.

For labels printed directly on packaging surfaces, table 3 may be used, although compliance with either table 1 or table 2 is sufficient. However, if visual reference indicates that the colors of labels printed directly on package surfaces are outside the table 1 or 2 tolerances, a spectrophotometer or other instrumentation may be required to insure compliance with table 3.

TABLE 1—SPECIFICATIONS FOR COLOR TOLERANCE CHARTS FOR USE WITH LABELS AND PLACARDS SURFACED WITH PAINT, LACQUER, ENAMEL, PLASTIC, OTHER OPAQUE COATINGS, OR INK ¹

| Color | Munsell notations | CIE data for source C | | |
|------------------------------|---------------------|-----------------------|-------|-------|
| | | Y | x | y |
| Red: | | | | |
| Central color | 7.5R 4.0/14 | 12.00 | .5959 | .3269 |
| Orange | 8.5R 4.0/14 | 12.00 | .6037 | .3389 |
| Purple and vivid | 6.5R 4.0/14 | 12.00 | .5869 | .3184 |
| Grayish | 7.5R 4.0/12 | 12.00 | .5603 | .3321 |
| Vivid | 7.5R 4.0/16 | 12.00 | .6290 | .3192 |
| Light | 7.5R 4.5/14 | 15.57 | .5775 | .3320 |
| Dark | 7.5R 3.5/14 | 09.00 | .6226 | .3141 |
| Orange: | | | | |
| Central color | 5.OYR 6.0/15 | 30.05 | .5510 | .4214 |
| Yellow and Grayish | 6.25YR 6.0/15 | 30.05 | .5452 | .4329 |
| Red and vivid | 3.75YR 6.0/15 | 30.05 | .5552 | .4091 |
| Grayish | 5.OYR 6.0/13 | 30.05 | .5311 | .4154 |
| Vivid | 5.OYR 6.0/16 | 30.05 | .5597 | .4239 |
| Light | 5.OYR 6.5/15 | 36.20 | .5427 | .4206 |
| Dark | 5.OYR 5.5/15 | 24.58 | .5606 | .4218 |
| Yellow: | | | | |
| Central color | 5.OY 8.0/12 | 59.10 | .4562 | .4788 |
| Green | 6.5Y 8.0/12 | 59.10 | .4498 | .4865 |
| Orange and vivid | 3.5Y 8.0/12 | 59.10 | .4632 | .4669 |
| Grayish | 5.OY 8.0/10 | 59.10 | .4376 | .4601 |
| Vivid | 5.OY 8.0/14 | 59.10 | .4699 | .4920 |
| Light | 5.OY 8.5/12 | 68.40 | .4508 | .4754 |
| Dark | 5.OY 7.5/12 | 50.68 | .4620 | .4823 |
| Green: | | | | |
| Central color | 7.5G 4.0/9 | 12.00 | .2111 | .4121 |
| Bluish | 0.5BG 4.0/9 | 12.00 | .1974 | .3809 |
| Green-yellow | 5.0G 4.0/9 | 12.00 | .2237 | .4399 |
| Grayish A | 7.5G 4.0/7 | 12.00 | .2350 | .3922 |
| Grayish B ² | 7.5G 4.0/6 | 12.00 | .2467 | .3822 |
| Vivid | 7.5G 4.0/11 | 12.00 | .1848 | .4319 |
| Light | 7.5G 4.5/9 | 15.57 | .2204 | .4060 |
| Dark | 7.5G 3.5/9 | 09.00 | .2027 | .4163 |
| Blue: | | | | |
| Central color | 2.5PB 3.5/10 | 09.00 | .1691 | .1744 |
| Purple | 4.5PB 3.5/10 | 09.00 | .1796 | .1711 |
| Green and vivid | 10.0B 3.5/10 | 09.00 | .1557 | .1815 |
| Grayish | 2.5PB 3.5/8 | 09.00 | .1888 | .1964 |
| Vivid | 2.5PB 3.5/12 | 09.00 | .1516 | .1547 |
| Light | 2.5PB 4.0/10 | 12.00 | .1805 | .1888 |
| Dark | 2.5PB 3.0/10 | 06.55 | .1576 | .1600 |
| Purple: | | | | |
| Central color | 10.0P 4.5/10 | 15.57 | .3307 | .2245 |
| Reddish purple | 2.5RP 4.5/10 | 15.57 | .3584 | .2377 |
| Blue purple | 7.5P 4.5/10 | 15.57 | .3068 | .2145 |
| Reddish gray | 10.0P 4.5/8 | 15.57 | .3280 | .2391 |
| Gray ² | 10.0P 4.5/6.5 | 15.57 | .3254 | .2519 |
| Vivid | 10.0P 4.5/12 | 15.57 | .3333 | .2101 |
| Light | 10.0P 5.0/10 | 19.77 | .3308 | .2328 |
| Dark | 10.0P 4.0/10 | 12.00 | .3306 | .2162 |

¹ Maximum chroma is not limited.
² For the colors green and purple, the minimum saturation (chroma) limits for porcelain enamel on metal are lower than for most other surface coatings. Therefore, the minimum chroma limits of these two colors as displayed on the Charts for comparison to porcelain enamel on metal is low, as shown for green (grayish B) and purple (gray).
 NOTE: CIE=Commission Internationale de L'Eclairage.

TABLE 2—SPECIFICATIONS FOR COLOR TOLERANCE CHARTS FOR USE WITH LABELS AND PLACARDS SURFACED WITH INK

| Color/series | Munsell notation | CIE data for source C | | |
|------------------------|----------------------|-----------------------|-------|-------|
| | | Y | x | y |
| Red: | | | | |
| Central series: | | | | |
| Central color | 6.8R 4.47/12.8 | 15.34 | .5510 | .3286 |
| Grayish | 7.2R 4.72/12.2 | 17.37 | .5368 | .3348 |
| Purple | 6.4R 4.49/12.7 | 15.52 | .5442 | .3258 |
| Purple and vivid | 6.1R 4.33/13.1 | 14.25 | .5529 | .3209 |

TABLE 2—SPECIFICATIONS FOR COLOR TOLERANCE CHARTS FOR USE WITH LABELS AND PLACARDS SURFACED WITH INK—Continued

| Color/series | Munsell notation | CIE data for source C | | |
|------------------------------|------------------------|-----------------------|-------|-------|
| | | Y | x | y |
| Vivid | 6.7R 4.29/13.2 | 13.99 | .5617 | .3253 |
| Orange | 7.3R 4.47/12.8 | 15.34 | .5572 | .3331 |
| Orange and grayish | 7.65R 4.70/12.4 | 17.20 | .5438 | .3382 |
| Light series: | | | | |
| Light | 7.0R 4.72/13.2 | 17.32 | .5511 | .3322 |
| Light and orange | 7.4R 4.96/12.6 | 19.38 | .5365 | .3382 |
| Light and purple | 6.6R 4.79/12.9 | 17.94 | .5397 | .3289 |
| Dark series: | | | | |
| Dark A | 6.7R 4.19/12.5 | 13.30 | .5566 | .3265 |
| Dark B | 7.0R 4.25/12.35 | 13.72 | .5522 | .3294 |
| Dark and purple | 7.5R 4.23/12.4 | 13.58 | .5577 | .3329 |
| Orange: | | | | |
| Central series: | | | | |
| Central color | 5.0YR 6.10/12.15 | 31.27 | .5193 | .4117 |
| Yellow and grayish A | 5.8YR 6.22/11.7 | 32.69 | .5114 | .4155 |
| Yellow and grayish B | 6.1YR 6.26/11.85 | 33.20 | .5109 | .4190 |
| Vivid | 5.1YR 6.07/12.3 | 30.86 | .5226 | .4134 |
| Red and vivid A | 3.9YR 5.87/12.75 | 28.53 | .5318 | .4038 |
| Red and vivid B | 3.6YR 5.91/12.6 | 29.05 | .5291 | .4021 |
| Grayish | 4.9YR 6.10/11.9 | 31.22 | .5170 | .4089 |
| Light series: | | | | |
| Light and vivid A | 5.8YR 6.78/12.7 | 39.94 | .5120 | .4177 |
| Light and yellow | 6.0YR 6.80/12.8 | 40.20 | .5135 | .4198 |
| Light and vivid B | 4.9YR 6.60/12.9 | 37.47 | .5216 | .4126 |
| Dark series: | | | | |
| Dark and yellow | 5.8YR 5.98/11.0 | 29.87 | .5052 | .4132 |
| Dark A | 5.1YR 5.80/11.1 | 27.80 | .5127 | .4094 |
| Dark B | 5.0YR 5.80/11.0 | 27.67 | .5109 | .4068 |
| Yellow: | | | | |
| Central series: | | | | |
| Central color | 4.3Y 7.87/10.3 | 56.81 | .4445 | .4589 |
| Vivid A | 4.5Y 7.82/10.8 | 55.92 | .4503 | .4658 |
| Vivid B | 3.3Y 7.72/11.35 | 54.24 | .4612 | .4624 |
| Vivid and orange | 3.2Y 7.72/10.8 | 54.25 | .4576 | .4572 |
| Grayish A | 4.1Y 7.95/9.7 | 58.18 | .4380 | .4516 |
| Grayish B | 5.1Y 8.06/9.05 | 60.12 | .4272 | .4508 |
| Green-yellow | 5.2Y 7.97/9.9 | 58.53 | .4356 | .4605 |
| Light series: | | | | |
| Light | 5.4Y 8.59/10.5 | 70.19 | .4351 | .4628 |
| Light and green-yellow | 5.4Y 8.56/11.2 | 69.59 | .4414 | .4692 |
| Light and vivid | 4.4Y 8.45/11.4 | 67.42 | .4490 | .4662 |
| Dark series: | | | | |
| Dark and green-yellow | 4.4Y 7.57/9.7 | 51.82 | .4423 | .4562 |
| Dark and orange A | 3.4Y 7.39/10.4 | 48.86 | .4584 | .4590 |
| Dark and orange B | 3.5Y 7.41/10.0 | 49.20 | .4517 | .4544 |
| Green: | | | | |
| Central series: | | | | |
| Central color | 9.75G 4.26/7.75 | 13.80 | .2214 | .3791 |
| Grayish | 10G 4.46/7.5 | 15.25 | .2263 | .3742 |
| Blue A | 1.4BG 4.20/7.4 | 13.36 | .2151 | .3625 |
| Blue B | 1.0BG 4.09/7.75 | 12.60 | .2109 | .3685 |
| Vivid | 8.4G 4.09/8.05 | 12.59 | .2183 | .3954 |
| Vivid green-yellow | 7.0G 4.23/8.0 | 13.54 | .2292 | .4045 |
| Green-yellow | 7.85G 4.46/7.7 | 15.23 | .2313 | .3914 |
| Light series: | | | | |
| Light and vivid | 9.5G 4.45/8.8 | 15.21 | .2141 | .3863 |
| Light and blue | 0.2BG 4.31/8.8 | 14.12 | .2069 | .3814 |
| Light and green-yellow | 8.3G 4.29/9.05 | 14.01 | .2119 | .4006 |
| Dark series: | | | | |
| Dark and green-yellow | 7.1G 4.08/7.1 | 12.55 | .2354 | .3972 |
| Dark and grayish | 9.5G 4.11/6.9 | 12.70 | .2282 | .3764 |
| Dark | 8.5G 3.97/7.2 | 11.78 | .2269 | .3874 |
| Blue: | | | | |
| Central series: | | | | |
| Central color | 3.5PB 3.94/9.7 | 11.58 | .1885 | .1911 |
| Green and grayish A | 2.0PB 4.35/8.7 | 14.41 | .1962 | .2099 |
| Green and grayish B | 1.7PB 4.22/9.0 | 13.50 | .1898 | .2053 |
| Vivid | 2.9PB 3.81/9.7 | 10.78 | .1814 | .1852 |
| Purple and vivid A | 4.7PB 3.53/10.0 | 9.15 | .1817 | .1727 |

TABLE 2—SPECIFICATIONS FOR COLOR TOLERANCE CHARTS FOR USE WITH LABELS AND PLACARDS SURFACED WITH INK—Continued

| Color/series | Munsell notation | CIE data for source C | | |
|--------------------------|------------------------|-----------------------|-------|-------|
| | | Y | x | y |
| Purple and vivid B | 5.0PB 3.71/9.9 | 10.20 | .1888 | .1788 |
| Grayish | 3.75PB 4.03/9.1 | 12.17 | .1943 | .1961 |
| Light series: | | | | |
| Light and green A | 1.7PB 4.32/9.2 | 14.22 | .1904 | .2056 |
| Light and green B | 1.5PB 4.11/9.6 | 12.72 | .1815 | .1971 |
| Light and vivid | 3.2PB 3.95/10.05 | 11.70 | .1831 | .1868 |
| Dark series: | | | | |
| Dark and grayish | 3.9PB 4.01/8.7 | 12.04 | .1982 | .1992 |
| Dark and purple A | 4.8PB 3.67/9.3 | 9.95 | .1918 | .1831 |
| Dark and purple B | 5.2PB 3.80/9.05 | 10.76 | .1985 | .1885 |
| Purple: | | | | |
| Central series: | | | | |
| Central color | 9.5P 4.71/11.3 | 17.25 | .3274 | .2165 |
| Red | 1.0RP 5.31/10.8 | 22.70 | .3404 | .2354 |
| Red and vivid A | 1.4RP 5.00/11.9 | 19.78 | .3500 | .2274 |
| Red and vivid B | 0.2RP 4.39/12.5 | 14.70 | .3365 | .2059 |
| Vivid | 8.0P 4.04/12.0 | 12.23 | .3098 | .1916 |
| Blue | 7.0P 4.39/10.8 | 14.71 | .3007 | .2037 |
| Grayish | 8.8P 5.00/10.3 | 19.73 | .3191 | .2251 |
| Light series: | | | | |
| Light and red A | 0.85RP 5.56/11.1 | 25.18 | .3387 | .2356 |
| Light and red B | 1.1RP 5.27/12.3 | 22.27 | .3460 | .2276 |
| Light and vivid | 9.2P 4.94/11.95 | 19.24 | .3247 | .2163 |
| Dark series: | | | | |
| Dark and grayish | 9.6P 4.70/10.9 | 17.19 | .3283 | .2204 |
| Dark and vivid | 8.4P 4.05/11.6 | 12.35 | .3144 | .1970 |
| Dark and blue | 7.5P 4.32/10.5 | 14.19 | .3059 | .2078 |

TABLE 3—SPECIFICATION FOR COLORS FOR USE WITH LABELS PRINTED ON PACKAGINGS SURFACES

| CIE data for source C | Red | Orange | Yellow | Green | Blue | Purple |
|-----------------------|------|--------|--------|-------|------|--------|
| x | .424 | .460 | .417 | .228 | .200 | .377 |
| y | .306 | .370 | .392 | .354 | .175 | .205 |
| x | .571 | .543 | .490 | .310 | .255 | .377 |
| y | .306 | .400 | .442 | .354 | .250 | .284 |
| x | .424 | .445 | .390 | .228 | .177 | .342 |
| y | .350 | .395 | .430 | .403 | .194 | .205 |
| x | .571 | .504 | .440 | .310 | .230 | .342 |
| y | .350 | .430 | .492 | .403 | .267 | .284 |
| Y (high) | 23.0 | 41.6 | 72.6 | 20.6 | 15.9 | 21.2 |
| Y (low) | 7.7 | 19.5 | 29.1 | 7.4 | 6.5 | 8.2 |

[Amdt. 172–50, 44 FR 9757, Feb. 15, 1979; Amdt. 172–50, 44 FR 10984, Feb. 26, 1979, as amended by Amdt. 172–50, 44 FR 22467, Apr. 16, 1979; 50 FR 45731, Nov. 1, 1985; Amdt. 172–127, 59 FR 49133, Sept. 26, 1994]

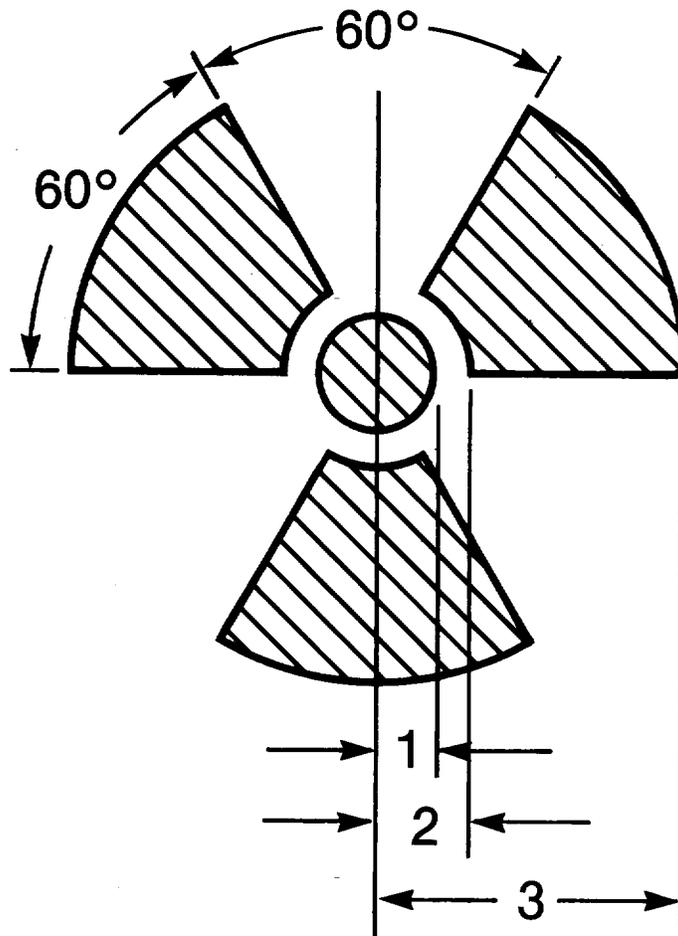
APPENDIX B TO PART 172—TREFOIL SYMBOL

SOURCE: 60 FR 50306, Sept. 28, 1995, unless otherwise noted.

1. Except as provided in paragraph 2 of this appendix, the trefoil symbol required for RADIOACTIVE labels and placards and required

to be marked on certain packages of Class 7 materials must conform to the design and size requirements of this appendix.

2. RADIOACTIVE labels and placards that were printed prior to April 1, 1996, in conformance with the requirements of this subchapter in effect on March 30, 1996, may continue to be used.



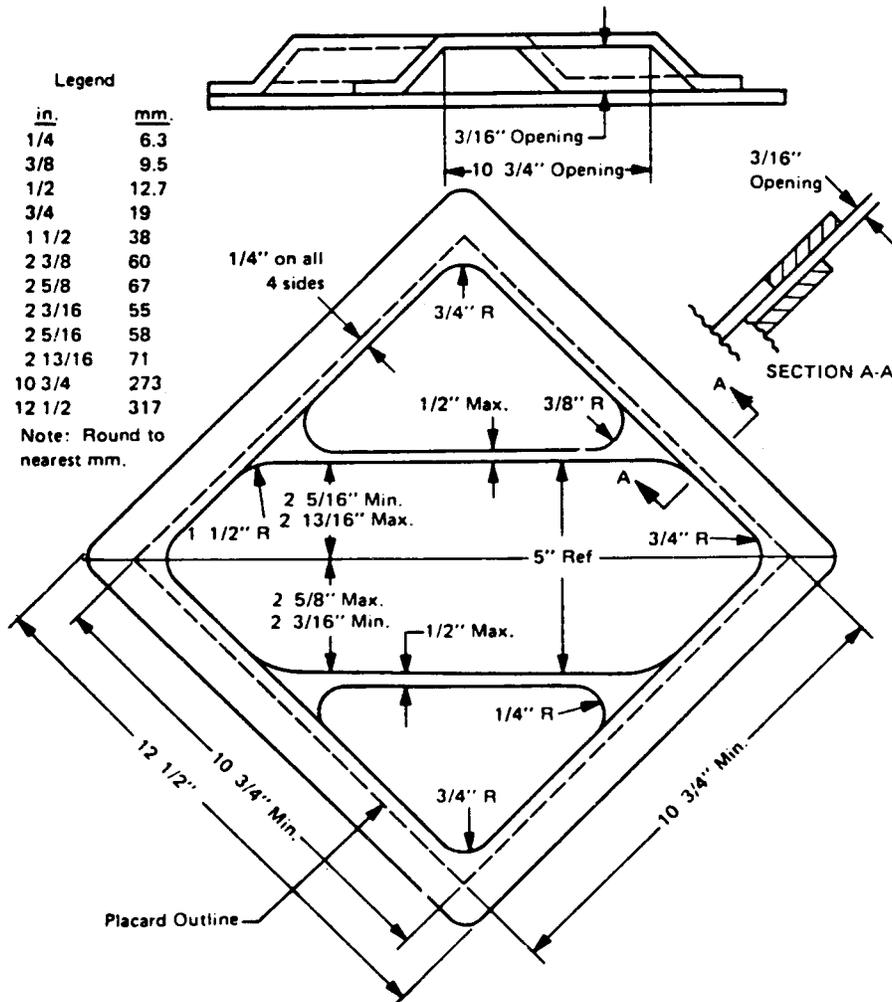
1=Radius of Circle—
Minimum dimensions
4 mm (0.16 inch) for markings and labels
12.5 mm (0.5 inch) for placards
2=1½ Radii

3=5 radii for markings and labels
4½ radii for placards.

[60 FR 50306, Sept. 28, 1995, as amended by
172-143, 61 FR 20750, May 8, 1996]

APPENDIX C TO PART 172—DIMENSIONAL SPECIFICATIONS FOR RECOMMENDED PLACARD HOLDER

APPENDIX C—DIMENSIONAL SPECIFICATIONS FOR RECOMMENDED PLACARD HOLDER



PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

Subpart A—General

Sec.
173.1 Purpose and scope.

173.2 Hazardous materials classes and index to hazard class definitions.
173.2a Classification of a material having more than one hazard.
173.3 Packaging and exceptions.
173.4 Small quantity exceptions.
173.5 Agricultural operations.
173.5a Oilfield service vehicles.
173.6 Materials of trade exceptions.