

• The institution shall furnish the additional information as soon as possible or within 15 calendar days of the date of the OTS's request, unless the time is extended by the Director of Supervision or his designee.

• Absent unusual circumstances, the OTS will provide its decision on the appeal within 60 calendar days of receipt of the request for appeal or, if additional information is requested, within 60 calendar days of receipt of any additional information.

• Any of the above timeframes may be extended by the Director of Supervision or his designee. Any extensions granted will be in writing, and will include the reason for the extension, and the expected date that a decision will be made.

Effect of Initiating a Supervisory Appeal

An institution's appeal will not suspend or delay the pursuit of any enforcement action or formal investigation. An appeal will not stay the obligation of an institution or institution-affiliated party to comply with any order or other determination resulting from an enforcement action. An appeal will not operate automatically to relieve the savings association of its obligation to comply with the supervisory determination under review. Upon the request of the savings association filed simultaneously with its appeal, the Director of Supervision may, however, relieve the institution of that obligation to comply during the pendency of its appeal in Washington. OTS retains the right to take any action and to apply any standards deemed appropriate to ensure the safety and soundness of an institution.

Prohibition on Retaliation

The OTS prohibits any employee, including members of its examination and supervisory staff, from acts of retaliation against a savings association that appeals a supervisory determination. Separately, the OTS intends to appoint an Ombudsman whose responsibilities include the investigation and resolution of complaints of retaliation made by a savings association. Such complaints may be made at any time to: Office of Ombudsman, Office of Thrift Supervision, 1700 G Street, N.W., Washington, D.C. 20552.

The OTS will take appropriate disciplinary action against any employee who is found to have violated the prohibition on retaliation.

Dated: December 22, 1994.

By the Office of Thrift Supervision.

John F. Downey,

Director of Supervision.

[FR Doc. 94-32004 Filed 12-28-94; 8:45 am]

BILLING CODE 6720-01-P

UNITED STATES INFORMATION AGENCY

Culturally Significant Objects Imported for Exhibition; Wassily Kandinsky; Compositions Determination

Notice is hereby given of the following determination: Pursuant to the authority vested in me by the Act of October 19, 1965 (79 Stat. 985, 22 U.S.C. 2459), Executive Order 12047 of March 27, 1978 (43 FR 13359, March 29, 1978), and Delegation Order No. 85-5 of June 27, 1985 (50 FR 27393, July 2, 1985), I hereby determine that the objects to be included in the exhibit, "*Wassily Kandinsky: Compositions.*" (See list¹), imported from abroad for the temporary exhibition without profit within the United States, are of cultural significance. These objects are imported pursuant to a loan agreement with the foreign lenders. I also determine that the temporary exhibition or display of the listed exhibit objects at The Museum of Modern Art on or about January 25, 1995 through April 25, 1995 and the Los Angeles County Museum of Art, Los Angeles, California on or about June 1, 1995 through September 29, 1995 is in the national interest. Public Notice of this determination is ordered to be published in the *Federal Register*.

Dated: December 20, 1994.

Les Jin,

General Counsel.

[FR Doc. 94-31985 Filed 12-28-94; 8:45am]

BILLING CODE 8230-01-M

DEPARTMENT OF VETERANS AFFAIRS

Information Collection Under OMB Review: Request for Change of Program or Place of Training (Under Chapters 30 and 32, Title 38 U.S.C.; Section 903 of Public Law 96-342; or Chapter 106, Title 10 U.S.C.), VA Form 22-1995

AGENCY: Department of Veterans Affairs.

ACTION: Notice.

The Department of Veterans Affairs has submitted to OMB the following

¹ A copy of this list may be obtained by contacting Ms. Carol B. Epstein, Assistant General Counsel, at 619-6981, and the address is Room 700, U.S. Information Agency, 301 Fourth Street, SW., Washington, DC 20547.

proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) the title of the information collection, and the Department form number(s), if applicable; (2) a description of the need and its use; (3) who will be required or asked to respond; (4) an estimate of the total annual reporting hours, and recordkeeping burden, if applicable; (5) the estimated average burden hours per respondent; (6) the frequency of response; and (7) an estimated number of respondents.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from Patricia Fineran, Veterans Benefits Administration (20M30), Department of Veterans Affairs, 810 Vermont Avenue, NW, Washington, DC 20420, (202) 273-6886.

Comments and questions about the items on the list should be directed to VA's OMB Desk Officer, Joseph Lackey, NEOB, Room 3002, Washington, DC 20503, (202) 395-7316. Do not send requests for benefits to this address.

DATES: Comments on the information collection should be directed to the OMB Desk Officer on or before January 30, 1995.

Dated: December 21, 1994.

By direction of the Secretary:

Donald L. Neilson,

Director, Information Management Service.

Extension

1. Request for Change of Program or Place of Training (Under Chapters 30 and 32, Title 38 U.S.C.; Section 903 of Public Law 96-342; or Chapter 106, Title 10 U.S.C.), VA Form 22-1995.

2. The form is used by veterans, servicepersons, and selected reservists receiving education benefits to request a change of program or place of training.

3. Individuals or households.

4. 56,667 hours.

5. 20 minutes.

6. On occasion.

7. 170,000 respondents.

[FR Doc. 94-32057 Filed 12-28-94; 8:45 am]

BILLING CODE 8320-01-M

Information Collection Under OMB Review: Status of Dependents Questionnaire, VA Form 21-0538

AGENCY: Department of Veterans Affairs.

ACTION: Notice.

The Department of Veterans Affairs has submitted to OMB the following proposal for the collection of

information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) the title of the information collection, and the Department form number(s), if applicable; (2) a description of the need and its use; (3) who will be required or asked to respond; (4) an estimated of the total annual reporting hours, and recordkeeping burden, if applicable; (5) the estimated average burden hours per respondent; (6) the frequency of response; and (7) an estimated number of respondents.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from Patricia Fineran, Veterans Benefits Administration (20M30), Department of Veterans Affairs, 810 Vermont Avenue, NW, Washington, DC 20420, (202) 273-6886.

Comments and questions about the items on the list should be directed to VA's OMB Desk Officer, Joseph Lackey, NEOB, Room 3002, Washington, DC 20503, (202) 395-7316. Do not send requests for benefits to this address.

DATES: Comments on the information collection should be directed to the OMB Desk Officer on or before January 30, 1995.

Dated: December 21, 1994.

By direction of the Secretary:

Donald L. Neilson,

Director, Information Management Service.

Reinstatement

1. Status of Dependents Questionnaire, VA Form 21-0538.
2. The form is used to request certification of the status of dependents of veterans for whom additional compensation is being paid. The information is used by VA to determine continued entitlement to the additional benefits for dependents.
3. Individuals or households.

4. 14,083 hours.
5. 10 minutes.
6. On occasion.
7. 84,500 respondents.

[FR Doc. 94-32055 Filed 12-28-94; 8:45 am]

BILLING CODE 8320-01-M

Information Collection Under OMB Review: Veterans, Patient, Health Care Services, Advance Directive, Informed Consent

AGENCY: Department of Veterans Affairs.

ACTION: Notice.

The Department of Veterans Affairs has submitted to OMB the following proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). This document lists the following information: (1) The title of the information collection, and the Department form number(s), if applicable; (2) a description of the need and its use; (3) who will be required or asked to respond; (4) an estimate of the total annual reporting hours, and recordkeeping burden, if applicable; (5) the estimated average burden hours per respondent; (6) the frequency of response; and (7) an estimated number of respondents.

ADDRESSES: Copies of the proposed information collection and supporting documents may be obtained from Ann Bickoff, Veterans Health Administration (161B4), Department of Veterans Affairs, 810 Vermont Avenue, NW, Washington, DC 20420 (202) 535-7407.

Comments and questions about the items on the list should be directed to VA's OMB Desk Officer, Joseph Lackey, NEOB, Room 10102, Washington, DC 20503, (202) 395-7316. Do not send requests for benefits to this address.

DATES: Comments on the information collection should be directed to the

OMB Desk Officer on or before January 30, 1995.

Dated: December 21, 1994.

By direction of the Secretary:

Donald L. Neilson,

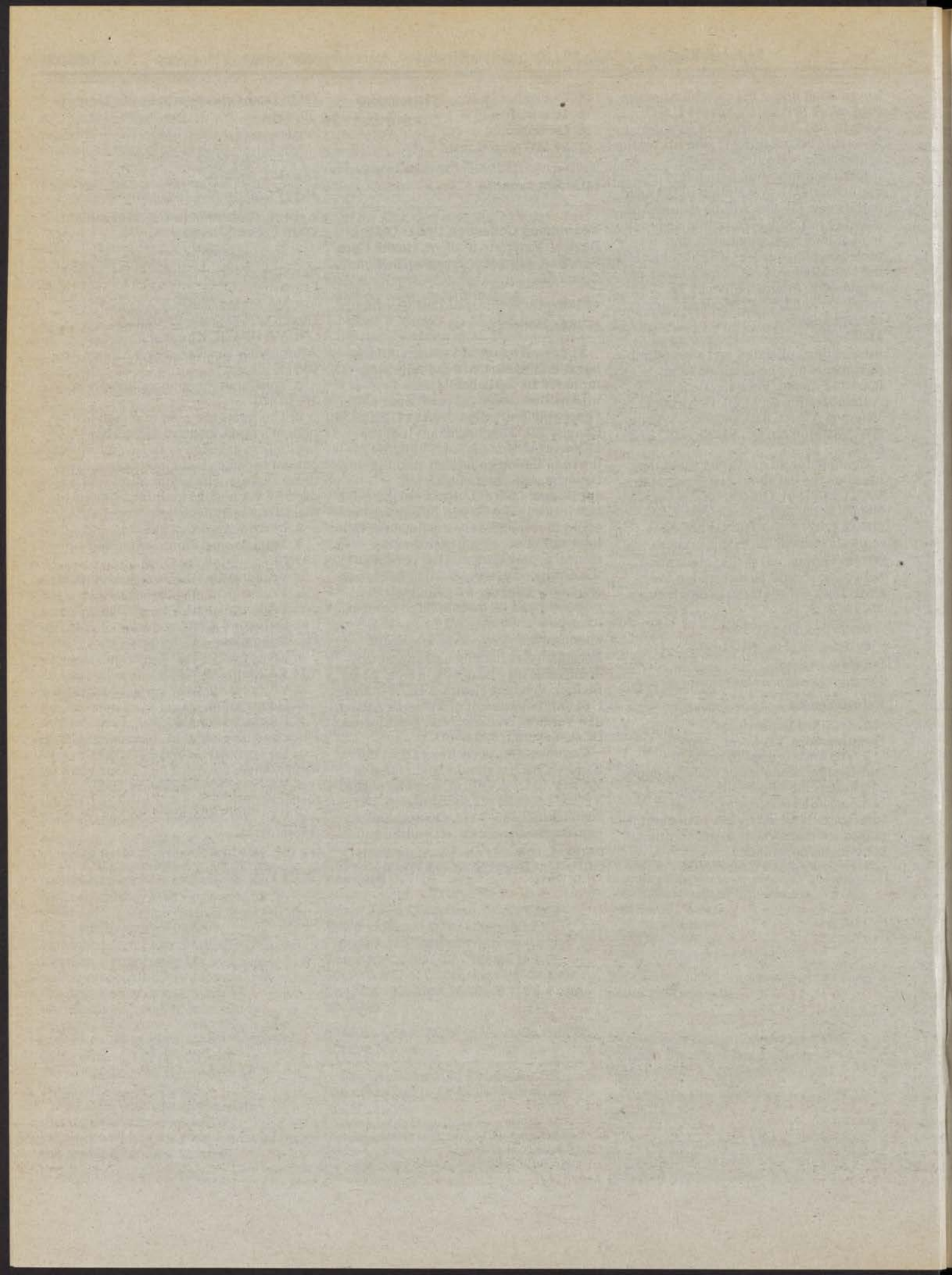
Director, Information Management Service.

Existing Collection in Use Without an OMB Control Number

1. Veterans, Patient, Health Care Services, Advance Directive, Informed Consent
 - a. VA Living Will/VA Advance Directive, VA Form 10-0137A
 - b. VA DPAHC (Durable Power of Attorney for Health Care), VA Form 10-0137B
 - c. Treatment Preferences, VA Form 10-0137C
2. The forms are used to record a VA patient's specific instructions about health care decision in the event the patient becomes incompetent to make those choices. The information will be used by VA health care professionals to make treatment decisions for patients.
3. Individuals or households
4. Total Annual Hours requested—99,630
 - a. VA Form 10-0137A—25,410 hours
 - b. VA Form 10-0137B—35,310
 - c. VA Form 10-0137C—39,530
5. Estimated Average Burden Hours Per Respondent—25 minutes
 - a. VA Form 10-0137A—20 minutes
 - b. VA Form 10-0137B—20 minutes
 - c. VA Form 10-0137C—40 minutes
6. On occasion
7. Estimated Number of Respondents—243,000
 - a. VA Form 10-0137A—77,000 respondents
 - b. VA Form 10-0137B—107,000 respondents
 - c. VA Form 10-0137C—59,000 respondents.

[FR Doc. 94-32056 Filed 12-28-94; 8:45 am]

BILLING CODE 8320-01-M



Federal Register

Thursday
December 29, 1994

Part II

Department of Transportation

Research and Special Programs
Administration

49 CFR Part 171, et al.
Implementation of the United Nations
Recommendations, International Maritime
Dangerous Goods Code, and International
Civil Aviation Organization's Technical
Instructions; Final Rule

DEPARTMENT OF TRANSPORTATION

Research and Special Programs
Administration49 CFR Parts 171, 172, 173, 175, 176,
177, 178[Docket No. HM-215A; Amdt Nos. 171-131,
172-139, 173-241, 175-52, 176-36, 177-84,
178-106]

RIN 2137-AC42

Implementation of the United Nations
Recommendations, International
Maritime Dangerous Goods Code, and
International Civil Aviation
Organization's Technical InstructionsAGENCY: Research and Special Programs
Administration (RSPA), DOT.

ACTION: Final rule.

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

DATES: Effective: October 1, 1995.

Compliance date: Compliance with the regulations, as amended herein, is authorized as of January 1, 1995.

Incorporation by reference: The incorporation by reference of certain publications listed in these amendments has been approved by the Director of the Federal Register as of October 1, 1995.

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

SUPPLEMENTARY INFORMATION:**I. Background**

On December 21, 1990, the Research and Special Programs Administration (RSPA) published a final rule [Docket HM-181; 55 FR 52402] which comprehensively revised the Hazardous

Materials Regulations (HMR), 49 CFR Parts 171 to 180, with respect to hazard communication, classification, and packaging requirements, based on the UN Recommendations. One intended effect of the rule was to facilitate the international transportation of hazardous materials by ensuring a basic consistency between the HMR and international regulations.

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

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

The HMR, as revised under Docket HM-181, are largely based on the sixth revised edition of the UN Recommendations. Selected provisions from the seventh and eighth revised editions of the UN Recommendations have been incorporated into the HMR under subsequent Docket HM-181 rulemaking actions.

On July 18, 1994, RSPA issued a Notice of Proposed Rulemaking (NPRM) (Docket HM-215A; 59 FR 36488), which proposed changes to more fully align the HMR with the seventh and eighth revised editions of the UN

Recommendations. Such changes would provide consistency with the international air and sea transport requirements which, effective January 1, 1995, will be aligned with the eighth revised edition of the UN Recommendations.

II. Summary of Comments

RSPA received nearly 120 comments to the proposed rule from chemical manufacturers and distributors, carriers, model rocket users, and industry associations representing hazardous materials offerors, carriers, and packaging manufacturers and reconditioners. Commenters supported RSPA's effort to align the HMR with international standards to provide consistency and facilitate the international transportation of hazardous materials. Major issues identified by commenters included: (1) The purported need for a delay in the effective date of the final rule to allow an orderly transition from old to new requirements; (2) possible expansion of proposed provisions to allow reuse of certain UN standard packagings without leakproofness testing; (3) a request from model rocket users to clarify proposed packaging requirements for model rockets; (4) proposed removal of an exception for shipments transported within a port area; (5) reciprocal treatment of foreign-manufactured packagings; (6) proposed changes in criteria for corrosivity testing; and (7) proposed subsidiary labeling and terminology changes. A more detailed discussion of the comments and rulemaking actions in response to these comments is provided in the following summary.

III. Summary of Regulatory Changes by Section*Part 171*

Section 171.7. Various standards, such as those issued by the International Organization for Standardization (ISO), the American Society for Testing and Materials (ASTM), and Transport Canada, are added or updated, and the most current versions of the ICAO Technical Instructions, the IMDG Code, and the UN Recommendations are incorporated.

Section 171.8. New definitions for "Asphyxiant gas," "Gas," "Oxidizing gas" and "Siftproof packaging" are added, and definitions for "Box," "Liquid," "Overpack," "Solid" and "UN standard packaging" are revised for consistency with the seventh and eighth revised editions of the UN Recommendations. Two commenters asked RSPA to delete the word "Small"

in the proposed revision of the definition for "box". These commenters claimed that the term was ambiguous and could lead to differing interpretations by various enforcement agencies. RSPA agrees and is replacing the wording "Small holes" with the phrase "Holes appropriate to the size and use of the packaging". One of the commenters further asked RSPA to clarify whether the openings in the box may be designed for uses other than for ease of handling or opening. RSPA believes the wording "such as ease of handling or opening, or to meet classification requirements" proposed in the NPRM offers sufficient examples of uses for openings and, therefore, is not amending this text in the final rule. The definition for "UN standard packaging" is revised to clarify that it applies to both U.S.-manufactured and foreign-manufactured packagings and to delete reference to Subparts L and M of Part 178.

Section 171.11. Paragraph (d)(5) is adopted as proposed to include the word "toxic" as an appropriate reference to a poison.

Section 171.12. Paragraph (b) is revised as proposed. RSPA is amending §§ 171.12(b) and 176.27(c) to reference IMDG Code requirements for a container packing certification for freight containers and transport units intended for carriage by vessel. This requirement applies to persons who load hazardous materials for transportation (including freight forwarders, freight consolidators and non-vessel operating common carriers) or transport hazardous materials by vessel. A freight container packing certification requirement was adopted several years ago under Amendment 24 to the IMDG Code and became effective worldwide on January 1, 1994, as mandated under the International Convention on Safety of Life at Sea (SOLAS Convention). When hazardous materials are packed into a freight container or transport vehicle for transportation by vessel, those responsible for packing the unit must provide a certificate or declaration to the carrier attesting that the container is suitable for transport, that it contains compatible materials in packages that have been properly inspected, packed, and secured, and the container and packages are properly marked, labeled, and placarded. This certification may appear either in a separate document or in a signed statement provided on the dangerous goods shipping document. Because the U.S. is a signatory to the SOLAS Convention, RSPA is adopting a similar container packing certification requirement under the HMR.

In the NPRM, RSPA proposed removal of wording in paragraph (c) which allows hazardous materials being imported into or exported from the U.S. to comply with IMDG Code regulations in port areas. Commenters responding to this proposal opposed the removal of this wording; they claimed that a requirement for hazardous materials being imported into or exported from the U.S. to comply with the HMR in a port area would impose an economic burden on the industry and would be a barrier to trade. Paragraph (c) is not being revised in this final rule. RSPA plans to address the port area issue in greater detail in a future rulemaking proceeding.

Section 171.14. This section is revised to provide a delayed implementation date for amendments adopted in this final rule. RSPA also is removing obsolete transition dates provided under the Docket HM-181 final rule and its subsequent revisions. A new paragraph (a) contains all remaining transition provisions for implementing changes adopted under the Docket HM-181 final rules.

The effective date of this final rule is October 1, 1995. However, RSPA is authorizing a voluntary compliance date of January 1, 1995, which is consistent with the effective date of new requirements for international air and vessel shipments and will allow shippers to prepare their international shipments in accordance with the new ICAO, IMDG, and HMR provisions. RSPA also is authorizing, in new paragraph (b), a delay in mandatory compliance with the new requirements, until October 1, 1996. RSPA believes that an effective date of October 1, 1995, with an additional one-year delay until October 1, 1996, offers a sufficient phase-in period to implement new provisions and deplete current stocks of shipping papers, labels and placards, and containers affected by the new requirements. The October 1, 1996 implementation date also is consistent with certain Docket HM-181 transition provisions for maintenance and use of packagings. In addition, paragraph (b)(2) permits intermixing of old and new hazard communication requirements and reflects certain intermixing provisions authorized by the Docket HM-181 final rule.

Part 172

Sections 172.101 and 172.102. RSPA is revising the Hazardous Materials Table (HMT) and the list of special provisions in § 172.102 for basic conformance with the eighth revised edition of the UN Recommendations, the ICAO Technical Instructions (1995-

1996 edition) and the 27th edition of the IMDG Code.

The IM tank authorizations are revised for consistency with the changes in Chapter 12 of the seventh and eighth revised editions of the UN Recommendations. These changes can be found in the "T-note" authorizations that are listed in Column 7 of the HMT.

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

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

Numerous editorial changes are made to the HMT to correct misspellings and errors and to provide more consistency. A corrected typographical error is not shown in the list of significant changes. In addition, new generic entries are added for self-heating liquids and solids. Specific entries for self-reactive materials are removed from the HMT and replaced with new generic entries.

As discussed in the NPRM, the UN Recommendations, ICAO Technical Instructions, and IMDG Code have replaced the term "poisonous" with the term "toxic." RSPA proposed to amend proper shipping names in the HMT that contain the word "poisonous" by replacing "poisonous" with the word "toxic" to conform to international terminology. For example, the proper shipping name "Flammable liquid, poisonous, n.o.s." would read "Flammable liquid, toxic, n.o.s.". However, RSPA also proposed to revise

§ 172.101(c)(3) to allow the use of the word "poisonous" interchangeably with the word "toxic". Numerous commenters provided diverse opinions on this proposal. Highway carriers and the American Trucking Associations (ATA) believed that emergency responders would be at greater risk because the word "toxic" is overused and minimizes the seriousness of the poison hazard. They recommended reinstating "Poison" or "Poisonous" entries for domestic transportation. Another commenter thought that the option to use either term would force emergency response personnel and end users to deal with situations involving the same product bearing different labels or placards, depending on shipper preference. On the other hand, chemical manufacturers and their associations, such as the Chemical Manufacturers Association (CMA), supported the proposal to allow interchangeable use of either term. Other commenters, such as the Hazardous Materials Advisory Council (HMAC) agreed with interchangeable use, but only for as long as required to deplete stocks of preprinted materials and conduct training. RSPA believes the interchangeable use of "poison" and "toxic" for domestic transportation will provide flexibility and, therefore, is adopting as proposed the provision to permit use of either term.

The eighth revised edition of the UN Recommendations added entries and assigned new UN LD numbers for elevated temperature materials. RSPA is changing the I.D. numbers for elevated temperature materials in the HMT to correspond with those in the UN Recommendations. RSPA received comments requesting that RSPA not adopt the proposed identification numbers for elevated temperature materials. The commenters noted that the old identification numbers have only been required since October 1, 1993, and that switching them after only one year will cause confusion and non-compliance. Another commenter requested an extended transition period for the change in identification numbers for elevated temperature materials in order to dispose of large supplies of markings. With the extended transition period being provided in this final rule, RSPA believes that any confusion related to the change of identification numbers will be minimal. Therefore, RSPA is not accepting commenters' requests and has adopted the shipping descriptions for elevated temperature materials as proposed. In addition, RSPA is revising the HOT mark illustrated in § 172.325(c) to reflect the

new UN identification number assigned to "Elevated temperature material, liquid, n.o.s."

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

Two new domestic entries are added for "toy caps" and "model rocket motors". Model rocket motors containing 30 grams or less propellant are classed as Division 1.4S while items containing more than 30 grams but not more than 62.5 grams of propellant are classed as Division 1.4C. RSPA received numerous comments requesting a different packing method for these materials. The commenters requested packing method E-146(b) instead of packing method E-114 for these materials. RSPA has not adopted this request to allow the use of packing method E-146 for these materials, but has modified packing method E-114 to allow plastic bags as inner packagings.

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

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

The shipping name "acetonitrile" replaces the name "methyl cyanide." The hazard class for "Formaldehyde solutions" currently shown as Class 9 is

revised to Class 8. Numerous generic pesticide entries are revised to remove the "n.o.s." from the shipping names.

Revised generic shipping descriptions for Division 4.3 materials are prefaced by the words "water-reactive" in lieu of the words "substances which in contact with water emit". The prefix of the identification number for "Polyester resin kits" is changed to "UN" from "NA" and Special Provision 40 is added in Column 7 that specifies contents and packaging requirements for polyester resin kits. In addition, Special Provision 117 is removed from the entry corresponding to "UN0150."

The entry for alcoholic beverages is revised in Column 7 to include Special Provision 24, to indicate that alcoholic beverages with more than 70 percent alcohol by volume are assigned Packing Group II and alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol are assigned Packing Group III. In addition, § 173.150 is revised to increase (to five liters per inner packaging) the quantity of alcoholic beverage in a packaging excepted from the HMR and to provide an exception adopted in the UN Recommendations to permit Packing Group III alcoholic beverages transported in receptacles of 250 L (66 gallons) or less to be excepted from the HMR unless transported by air. One commenter requested that the shipping name "ethanol" also include Special Provision 24 because distilled spirits can be shipped under either "alcoholic beverages" or "ethanol". RSPA is not accepting this request. As the commenter noted, the addition of Special Provision 24 is simply a procedural modification of the existing classification procedure for alcoholic beverages. RSPA considers this commenter's request outside the scope of this rulemaking.

RSPA received a comment requesting that the shipping name "polystyrene beads expandable evolving flammable vapors", be retained for domestic transportation. The commenter noted that the name had only been required since October 1, 1993, and that it is not cost-efficient to change in such a short period of time. RSPA is not accepting this request but believes that the lengthy transition period should offset any additional cost that may be incurred by the shipper.

Several comments were received that objected to the proposal to remove from the HMT the entry "Propellant explosive, solid, NA0274, 1.3C". These commenters requested that this entry be retained because it allowed them to ship these 1.3C explosives by cargo only aircraft. RSPA is not adopting this

suggestion and is removing this entry from the HMT. RSPA believes that there is not sufficient justification to create a domestic exception for Division 1.3 substances or to allow these explosive substances to be transported by cargo only aircraft when no other Division 1.3 substance is allowed to be transported by aircraft.

Several comments were received regarding the shipping name "azodicarbonamide", a self-reactive material. Commenters believed that listing this material was "superfluous" considering the new classification scheme for self-reactive materials. RSPA concurs and has removed this entry from the HMR.

One commenter requested several editorial changes to the shipping name "jet perforating guns, charged, without detonator", which are adopted in this final rule. However, one suggestion, to remove the words "without detonator" from the shipping description, is not adopted. The commenter stated that packing method US006 allows detonators to be transported in jet perforating guns; therefore, the words "without detonator" should be removed from the shipping name. However, US006 only allows detonators to be transported with, not in, jet perforating guns.

RSPA received comments disagreeing with the removal of the shipping name "Petroleum oil". Commenters stated that the name was important for compliance with the Oil Pollution Act requirements in 49 CFR Part 130, and requested that a domestic shipping description be added. RSPA concurs and is retaining the proper shipping name "Petroleum oil" with an identification number "NA1270".

One commenter suggested that RSPA provide a non-bulk packaging exception for "Resin solution" comparable to the exception provided for paint under § 173.173 of the HMR. The commenter claimed that an exception from the performance packaging requirements is provided for certain resin solutions under the UN Recommendations and the IMDG Code. The commenter stated that U.S. companies need the exception for Resin solutions to compete in the international marketplace. RSPA agrees with the commenter's suggestion and is adding in the § 172.101 Table for the entry "Resin solution", in Column 8A, "§ 173.173". RSPA also is amending the section heading and the introductory text of paragraph (b) of § 173.173 to include resins.

In the notice, RSPA proposed to add several generic proper shipping names including the words, "organic", "inorganic", "acid", or "base". In

addition, RSPA proposed new identification numbers for generic shipping descriptions for liquefied gases. RSPA received several comments on these proposals. Many of the commenters were opposed to these new terms claiming that the information would not provide any additional information to emergency responders and would be very costly to implement. If adopted, commenters requested that RSPA provide guidance on the definition of these terms. One commenter suggested that ASTM Test Methods D-664 and D-2896 should be used to determine if a material is an acid or a base. Comments were received that supported the use of these terms, and RSPA received numerous comments supporting international harmonization of transportation regulations.

RSPA understands the concerns expressed by those commenters that terms such as "inorganic" and "organic" provide little useful information to emergency responders. However, RSPA believes that more harm and confusion would be caused by adopting different shipping names for domestic and international transportation for these numerous generic shipping descriptions than would be caused if these shipping names were adopted. Therefore, RSPA is adopting, as proposed, and without domestic exceptions, the generic shipping descriptions bearing the words "inorganic", "organic", "acid", and/or "base" and the new identification number for liquefied gases. In addition, the extended transition period being provided in this final rule will give industry adequate time to revise their shipping papers and package markings. The following provides some general guidance on the definition of these terms.

For acids and bases, RSPA believes that the ASTM methods referenced by commenters would be an acceptable method for determining if a material is an acid or base. However, RSPA is not requiring persons to use those methods. For an aqueous solution, the use of pH and litmus paper is an acceptable method for determining if a material is an acid or base. For a non-aqueous solution, shippers must use their knowledge of the constituents of the material and make a determination as to whether a material is an acid or base. For a material that is neither an acid nor a base, the correct shipping name will be "Corrosive liquid, n.o.s.". The definition of an "organic" is a compound with carbon atoms bonded to other carbon, nitrogen or hydrogen atoms (e.g., amines, acid chlorides,

acetic acids, phenols). An "inorganic" is any pure element or any compound that does not have carbon atoms bonded to other carbon, nitrogen or hydrogen atoms (e.g., sodium hydroxide, sulfuric acid). Shippers must make a determination, based on the constituents of their material, if their material is inorganic or organic.

In the NPRM, RSPA proposed to add three new proper shipping names to the HMT for samples of non-pressurized gases in Divisions 2.1 and 2.3. In response to the NPRM, one commenter urged RSPA to remove the proposed entries for gas samples in the HMT. The commenter claimed that non-pressurized flammable gases are not subject to the HMR and that including gas samples under the HMR would increase shipping costs and delay shipments. The commenter also recommended that RSPA adopt criteria in § 173.115 to limit the definition of Division 2.1 to gases which exert a pressure of 280 kPa (41 psia) or greater at 20 °C (68 °F). Alternatively, the commenter recommended that RSPA add a packaging exception for gas samples in quantities less than two liters in each receptacle and remove proposed Special Provision 35 and the non-bulk packaging references to §§ 173.302 and 173.304 for the gas sample entries in the HMT.

RSPA disagrees with the commenter's recommendation to remove the entries for gas samples because these materials are currently regulated under the HMR. The commenter's understanding of Division 2.1 criteria is incorrect. Non-pressurized gas samples are presently subject to the HMR if they meet the hazard class criteria in § 173.115. Division 2.1 or 2.3 materials are not limited to gases which exert a pressure of at least 280 kPa (41 psi) at 20 °C (68 °F). RSPA simply is providing more descriptive proper shipping names for non-pressurized gas samples. Therefore, RSPA is adopting the gas sample entries as proposed. In addition, RSPA is retaining the non-bulk packaging references in the Table for persons who want to ship larger quantities of gas samples. However, RSPA agrees with the commenter concerning the need to address gas samples in the exceptions and is removing proposed Special Provision 35 and revising the provisions in § 173.306 to specifically address gas samples.

One commenter submitted data indicating that "Diphenylmethane-4,4'-diisocyanate" does not meet Division 6.1, Packing Group III criteria under the HMR. Another commenter verified that "2-Bromo-2-nitropropane-1,3-diol" does not meet the criteria for

Division 6.1 under the HMR. The commenter requested that RSPA add an "I" in the first column of the § 172.101 Table for the entry "2-Bromo-2-nitropropane-1,3-diol" to distinguish it from a domestically regulated hazardous material. RSPA agrees that these materials are not hazardous materials in domestic transportation. However, to facilitate international transportation, RSPA is retaining the entries for Diphenylmethane-4,4'-diisocyanate and 2-Bromo-2-nitropropane-1,3-diol and adding an "I" in the first column to indicate that these materials are regulated in international transportation.

One commenter requested that RSPA remove the poison inhalation hazard (PIH) designation for "Allyl isothiocyanate, stabilized" because the material does not meet the PIH criteria in § 173.133. Based on supporting data submitted by the commenter, RSPA agrees with the assessment and is removing the PIH designation for Allyl isothiocyanate, stabilized, in the HMT.

RSPA received one comment regarding the hazard zone designation for "Allyl chloroformate." The commenter provided information which indicates that the hazard zone for allyl chloroformate should be Zone B and not Zone A. RSPA agrees that the hazard zone designation for allyl chloroformate should be "Zone B" and is amending the hazard zone designation for this material rather than issuing an approval under § 172.101(l)(2). In addition, data provided by a commenter indicates that the hazard zone for trichloroacetyl chloride is Zone B, not Zone A, as previously indicated on the HMT. Therefore, RSPA is modifying this shipping description to indicate that trichloroacetyl chloride is a Hazard Zone B PIH material.

One commenter objected to RSPA's proposal to add a proper shipping name for "Pentachlorophenols" classed as Division 6.1, Packing Group II when an existing entry "Chlorophenols, solid" carries a Division 6.1, Packing Group III classification. The commenter contended that the "Keep Away From Food" label adequately conveys the nature of hazard posed by these materials. RSPA added "Pentachlorophenols" in the HMT and designated it as Division 6.1, PG II based on the UN Recommendations. However, according to § 172.101(c)(12), if it has been 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, another shipping description shall be selected that

appropriately describes the material. Therefore, RSPA is adding the entry for Pentachlorophenols as proposed.

RSPA received several comments requesting that Maneb and Maneb preparations that do not meet the definition of any hazard class, be excepted from the HMR when transported by motor vehicle, rail car, or aircraft. Commenters noted that Special Provision 140 of the UN Recommendations allows the competent authority to deregulate Maneb. In addition, the commenters noted that exemption DOT E-11037 allows this material to be shipped unregulated. RSPA concurs and has added Special Provision 53 to Maneb (UN2968) which states that Maneb not meeting the definition of Division 4.3 or any other hazard class is not subject to the HMR when transported by aircraft, motor vehicle, or rail car.

RSPA received a comment requesting that it add the shipping description "Dangerous goods in apparatus/machinery" to the HMT. The commenter stated that this shipping name, which is listed in the ICAO Technical Instructions but not the UN Recommendations, is very sensible and will be beneficial to both shippers and carriers alike. RSPA agrees that this name would be beneficial to the industry but believes that the packaging provision, for both air and ground transport, should be subject to appropriate public notice and comment. Therefore, RSPA is not adopting, in this rule, this commenter's suggestion to add the shipping name "Dangerous goods in apparatus/machinery" to the HMT. However, shipments described and prepared in accordance with the ICAO Technical Instructions and § 171.11 may be transported domestically by aircraft and by motor vehicle either before or after being transported by aircraft.

One commenter suggested that RSPA incorporate an IM tank authorization into the HMR for 2-Ethylhexylchloroformate equivalent to the tank authorization under the IMDG Code and under an approval (SA-9407006) issued by OHMS. RSPA is adding Special Provision T12 in Column 7 of the HMT for 2-Ethylhexylchloroformate which eliminates the need for an approval.

In the NPRM, RSPA proposed to add subsidiary labeling requirements for Class 2 materials. As a result, subsidiary labels were added in Column 6 of the HMT for Class 2 materials, including Chlorine, meeting more than one hazard class. RSPA proposed to add Corrosive and Oxidizer subsidiary labels for Chlorine. One commenter contended that the yellow Oxidizer label is more visible than the black and white Poison

gas label and may cause confusion in determining the primary hazard. RSPA has determined that the Corrosive subsidiary label is necessary because of the material's effects on skin tissue; however, RSPA is removing the Oxidizer subsidiary label for Chlorine because it is unnecessary.

One commenter objected to the proposal to change the order of the descriptive words in the basic shipping description to coincide with the precedence of hazards. The commenter cited limited safety benefit and high costs as reasons not to adopt the proposed changes. Though RSPA agrees that these changes have limited safety benefit, RSPA believes that adoption of a domestic-only name for these descriptions is not justified. In addition, most of the costs the commenter cited should be ameliorated by the lengthy transition period being provided.

RSPA proposed to add new entries for solid materials containing flammable, corrosive, or toxic liquids in the NPRM. One commenter requested clarification on whether these new entries included solid materials that were previously not regulated. The commenter stated that RSPA's intent was not adequately clarified in the special provisions designated for the materials. Another commenter requested clarification of the phrase "packaging must correspond to a design type that has passed a leakproof test at the Packing Group II level" in Special Provisions 47, 48, and 49.

RSPA is adding the entries for solid materials containing flammable, corrosive, or toxic liquids in this rule to provide shippers with additional generic entries to describe solids that contain liquids that are either flammable, corrosive, or toxic (e.g., soil contaminated with toxic material from an underground storage tank) and have not been tested to verify the hazard class. However, if free liquid is present at the time the material is loaded, these shipping descriptions may not be used. The new entries are not intended to regulate non-hazardous materials (i.e., those materials that do not meet any hazard class definition). The phrase regarding the leakproof test is intended to have these materials transported in a packaging whose "design type" has been leakproof tested. Therefore, only the design, not every packaging, need be subjected to the leakproof test.

One commenter objected to RSPA's proposed amendment to require a CORROSIVE subsidiary label in addition to a POISON GAS primary label on packages containing dry sulfur dioxide. The commenter stated that the material is not corrosive to carbon or stainless steel, and the commenter

expressed concern that addition of a CORROSIVE label will require more frequent cargo tank inspections under § 180.407.

In the context of § 180.407, corrosive lading means that a material has a corrosive effect on a cargo tank. It is the shipper's responsibility to determine whether a material is corrosive to the material of construction of a cargo tank. Because of the corrosive effects dry sulfur dioxide has on skin tissue, RSPA is adopting the Class 8 subsidiary label as proposed.

RSPA received several comments requesting new bulk packagings for chlorosulfonic acid, dimethyl sulfate, and titanium tetrachloride. RSPA is not

accepting these comments because they are beyond the scope of this rulemaking.

RSPA is making several changes to the IBC authorizations in the HMT based on petitions for reconsideration received to Docket HM-181E. RSPA will handle all other petitions received to Docket HM-181E in a future Federal Register publication. The following materials will be allowed, through a revised Special Provision B110, to be transported in IBCs authorized in § 173.242(d): UN2030, UN2014, U3149, UN2078, UN1790, UN2076, UN2022. In addition, Special Provision B100, which does not allow the use of IBCs, is removed from "Chloropicrin mixtures, n.o.s, 6.1, UN1583, Packing Group III".

Special Provision B53 also is revised to indicate that it does not apply to IBCs.

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

LIST OF ENTRIES DELETED FROM THE § 172.101 TABLE

NA1086	0416	** 1270	1705	2497	3030-3043
NA2255*					
NA2810*	1118	1271	1864	2553	NA9259*
NA2811*	1255	1584	2207	2860	NA9276*
0273	1256	1592	2229	2951-2955	
0274	1257	1703	2449	2970-2973	

* See new entry added by the UN recommendations.
 ** See new NA number (NA1270).

LIST OF ENTRIES SIGNIFICANTLY CHANGED

NA1760	1322	1474	1731	2006	2379	2534	2818
NA1986	1325	1475	1740	2022	2382	2557	2821
NA2922	1328	1477	1747	2029-2030	2383	2564	2823
1030							
1106	1334	1481	1750	2047	2386	2571	2826
1125	1336	1482	1751	2051	2389	2583	2834
1135	1337	1483	1752	2076	2399	2584	2837
1143	1344	1489	1755	2189	2401	2585	2841
1154	1348	1502	1757	2194	2407	2586	2845
1158	1349	1506	1761	2195	2417	2604	2846
1160	1350	1508	1773	2196	2418	2606	2857
1162	1353	1511	1783	2198	2420	2610	2869
1167	1354	1517	1787	2206	2421	2616	2874
1198	1355	1549	1788	2209	2427	2619	2881
1202	1356	1564	1789	2211	2428	2626	2904-2905
1210	1357	1566	1809	2218	2429	2670	2921-2930
1214	1361	1570	1811	2219	2430	2677	2938
1221	1364	1588	1814	2232	2438	2679	2945-2946
1228	1373	1589	1816	2242	2445	2681	2965
1235	1378	1590	1819	2251	2461	2684	2985-2988
1265	1395	1599	1824	2257	2478	2693	2991-3021
1268	1402	1601	1888	2258	2482	2733	3024-3027
1274	1408	1602	1908	2260	2484	2734	3049-3050
1277	1409	1605	1922	2264	2485	2735	3065-3066
1282	1415	1613	1952	2267	2495	2741	3071
1289	1418	1614	1953	2270	2501	2742	3079
1296	1420	1648	1954	2276	2502	2757-2787	3084
1297	1428	1660	1955	2332	2517	2789	3086-3088
1298	1454	1708	1956	2337	2521	2796	3094
1308	1455	1715	1975	2343	2526	2801	3096
1310	1458	1719	1986	2351	2529	2810	3098-3100
1320	1459	1722	1988	2359	2530	2813	3119-3150
1321	1462	1724	1992	2361	2533	2817	1717

LIST OF ADDITIONS TO THE § 172.101 TABLE

UN #	Shipping name
0491	CHARGES, PROPELLING.
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE.
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE.
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator.
0495	PROPELLANT, LIQUID.
0496	OCTONAL.
0497	PROPELLANT, LIQUID.
0498	PROPELLANT, SOLID.
0499	PROPELLANT, SOLID.
1851	MEDICINE, LIQUID, TOXIC, N.O.S.
1990	BENZALDEHYDE.
3155	PENTACHLOROPHENOL.
3156	COMPRESSED GAS, OXIDIZING, N.O.S.
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.
3158	GAS, REFRIGERATED LIQUID, N.O.S.
3159	1,1,1,2-TETRAFLUOROETHANE.
3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.
3162	LIQUEFIED GAS, TOXIC, N.O.S.
3163	LIQUEFIED GAS, N.O.S.
3164	ARTICLES, PRESSURIZED PNEUMATIC or HYDRAULIC (containing non-flammable gas).
3166	ENGINES, INTERNAL COMBUSTION, including when fitted in machinery or vehicles.
3167	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid.
3168	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid.
3169	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid.
3170	ALUMINIUM PROCESSING BY-PRODUCTS.
3171	BATTERY-POWERED VEHICLE or BATTERY-POWERED EQUIPMENT (wet battery).
3174	TITANIUM DISULPHIDE.
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.
3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.

LIST OF ADDITIONS TO THE § 172.101 TABLE—Continued

UN #	Shipping name
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.
3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.
3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.
3189	METAL POWDER, SELF-HEATING, N.O.S.
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.
3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.
3203	PYROPHORIC ORGANOMETALLIC COMPOUND, N.O.S.
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.
3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.
3207	ORGANOMETALLIC COMPOUND or COMPOUND SOLUTION or COMPOUND DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3212	HYPOCHLORITES, INORGANIC, N.O.S.
3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3214	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3215	PERSULPHATES, INORGANIC, N.O.S.
3216	PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3217	PERCARBONATES, INORGANIC, N.O.S.
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
3220	PENTAFLUOROETHANE.
3221	SELF-REACTIVE LIQUID TYPE B.
3222	SELF-REACTIVE SOLID TYPE B.
3223	SELF-REACTIVE LIQUID TYPE C.
3224	SELF-REACTIVE SOLID TYPE C.
3225	SELF-REACTIVE LIQUID TYPE D.
3226	SELF-REACTIVE SOLID TYPE D.
3227	SELF-REACTIVE LIQUID TYPE E.
3228	SELF-REACTIVE SOLID TYPE E.
3229	SELF-REACTIVE LIQUID TYPE F.
3230	SELF-REACTIVE SOLID TYPE F.
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED.
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED.
3233	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED.

LIST OF ADDITIONS TO THE § 172.101 TABLE—Continued

UN #	Shipping name
3234	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED.
3235	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED.
3236	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED.
3237	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED.
3238	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED.
3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED.
3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED.
3241	2-BROMO-2-NITROPROPANE-1,3-DIOL.
3242	AZODICARBONAMIDE.
3243	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.
3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.
3246	METHANESULPHONYL CHLORIDE.
3247	SODIUM PEROXOBORATE, ANHYDROUS.
3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.
3249	MEDICINE, SOLID, TOXIC, N.O.S.
3250	CHLOROACETIC ACID, MOLTEN.
3251	ISOSORBIDE-5-MONONITRATE.
3252	DIFLUOROMETHANE.
3253	DISODIUM TRIOXOSILICATE, PENTAHYDRATE.
3254	TRIBUTYLPHOSPHANE.
3255	tert-BUTYL HYPOCHLORITE.
3256	ELEVATED TEMPERATURE LIQUID, N.O.S. with flash point above 37.8 °C, at or above its flash point.
3257	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash point.
3258	ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C.
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
3261	CORROSIVE, SOLID, ACIDIC, ORGANIC, N.O.S.
3262	CORROSIVE, SOLID, BASIC, INORGANIC, N.O.S.
3263	CORROSIVE, SOLID, BASIC, ORGANIC, N.O.S.
3264	CORROSIVE, LIQUID, ACIDIC, INORGANIC, N.O.S.
3265	CORROSIVE, LIQUID, ACIDIC, ORGANIC, N.O.S.
3266	CORROSIVE, LIQUID, BASIC, INORGANIC, N.O.S.
3267	CORROSIVE, LIQUID, BASIC, ORGANIC, N.O.S.
3268	AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRE-TENSIONERS or SEAT-BELT MODULES.
3269	POLYESTER RESIN KIT.
3270	NITROCELLULOSE MEMBRANE FILTERS.
3271	ETHERS, N.O.S.
3272	ESTERS, N.O.S.

LIST OF ADDITIONS TO THE § 172.101
TABLE—Continued

UN #	Shipping name
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.
3274	ALCOHOLATES SOLUTION, N.O.S., in alcohol.
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.
3276	NITRILES, TOXIC, N.O.S.
3277	CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC N.O.S.
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.
3280	ORGANOARSENIC COMPOUND, N.O.S.
3281	METAL CARBONYLS, N.O.S.
3282	ORGANOMETALLIC COMPOUND, TOXIC N.O.S.
3283	SELENIUM COMPOUND, N.O.S.
3284	TELLURIUM COMPOUND, N.O.S.
3285	VANADIUM COMPOUND, N.O.S.
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
3287	TOXIC LIQUID, INORGANIC, N.O.S.
3288	TOXIC SOLID, INORGANIC, N.O.S.
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
3292	BATTERIES, CONTAINING SODIUM, or CELLS, CONTAINING SODIUM.
3293	HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass.
3294	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide.
3295	HYDROCARBONS, LIQUID, N.O.S.
3296	HEPTAFLUOROPROPANE.
3297	ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide.
3298	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide.
3299	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide.
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide.
3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.

Appendix B to § 172.101. In the NPRM, RSPA proposed the addition of two notes which are consistent with recent IMO decisions. The first, Note 4, allows a material meeting criteria for a marine pollutant in the IMDG Code but not listed in Appendix B of § 172.101, to be transported as a marine pollutant. Note 5 allows the Associate Administrator for Hazardous Materials Safety to exempt from HMR

requirements a material listed in Appendix B of the HMR that does not meet the IMDG Code criteria for a marine pollutant. In addition, RSPA proposed to amend the HMR's List of Marine Pollutants by adding or removing a number of materials. Commenters to these proposals generally supported the proposed changes. One commenter questioned the addition of Notes 4 and 5. However, the majority of commenters addressing these proposed changes supported the addition of these notes. RSPA is adopting these notes for consistency with IMDG Code provisions. Note 4 is consistent with the 27th Amendment to the IMDG Code, which allows the use of criteria for designating marine pollutants. Note 5 provides flexibility so that if a substance does not meet the IMDG Code criteria for a marine pollutant the Associate Administrator may exempt it from the HMR marine pollutant requirements.

Other commenters thought it more appropriate to address these proposals under Docket HM-211; Marine Pollutants. RSPA disagrees; handling marine pollutant issues in Docket HM-215A will facilitate the harmonization of the HMR with the IMDG Code in conjunction with the January 1, 1995 implementation date for the 27th Amendment to that Code.

Section 172.102. Special Provisions 24, 26, 32, 34-37, 39, 40, 43-52 and 54 are added to § 172.102, Special Provisions 16, 23, B53, and B110 are revised, and Special Provisions 25, 41, and A33 are removed. These special provisions relate to certain materials' classifications and any special packaging requirements that are necessary to safely transport these materials.

Section 172.203. One commenter addressing proposed changes to the marine pollutant provisions requested relief from certain shipping paper requirements for specific hydrocarbon compounds which fall under the requirements of 49 CFR Part 130, which prescribes prevention and response requirements for the transportation of oil. This commenter believed that petroleum products subject to Part 130 should be exempt from the requirement in § 172.203(l) to indicate on a shipping paper that the material is also a marine pollutant. RSPA partially agrees with the commenter that hazardous materials that are subject to 49 CFR Part 130 should not be subject to the marine pollutant shipping paper requirements of § 172.203(l)(2). Therefore, RSPA is revising § 172.203(l)(2) to exempt petroleum products that are subject to

the provisions of 49 CFR Part 130 when transported in bulk by road or rail.

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

Section 172.204. RSPA proposed to amend the certification statement in paragraph (a)(2) by adding "placarded" as a condition for declaring a shipment to be properly prepared for transportation. The intent of this proposed change is to provide consistency with international declarations and enable one shipper certification statement to be used for both domestic and export shipments so that different preprinted forms are not needed. Commenters supported this proposed change for certifying an international shipment, but were divided as to whether it is appropriate for domestic transportation. Several commenters suggested that paragraph (a)(1) be deleted because it is no longer required. Other commenters believed that paragraph (a)(1) should be retained for domestic purposes without the addition of "placarded" to the certification. According to these commenters, certifying that a shipment has been properly placarded is inconsistent with the provisions in § 172.506 that a shipper must offer and a carrier must affix the required placards for transportation by highway. RSPA believes that the addition of "placarded" in the certification would not apply to shipments for which the offeror has no control over affixing placards. However, in this rule, RSPA is retaining paragraph (a)(1) for domestic purposes and is adopting paragraph (a)(2) as proposed for use in either domestic or international transportation. In addition, paragraph (a)(2) is amended by removing the provision to indicate the mode of transportation in the shipper's certification. This revision is consistent with the multimodal approach adopted in the UN Recommendations, ICAO and IMDG Code.

Section 172.320. Section 172.320 is adopted as proposed to authorize all product codes that are traceable to an "EX-number" to be marked on boxes of explosives in lieu of the EX number.

Section 172.325. The identification number "9259" shown in the HOT

marking illustration in paragraph (c) is revised to read "3257" to reflect the new UN number assigned to "Elevated temperature material, liquid, n.o.s."

Section 172.400a. A new paragraph (c) is adopted as proposed to state that a subsidiary POISON label is not required on a package bearing a primary CORROSIVE label if the poison hazard of the material inside is based solely on corrosive destruction of tissue and is not due to systemic poisoning. In addition, based on the merit of comments, RSPA is adding a new paragraph (d) to allow the use of a POISON label in place of a KEEP AWAY FROM FOOD label for domestic transportation of Division 6.1 PG III materials.

Section 172.402. Paragraph (a)(2) is adopted as proposed to incorporate certain subsidiary labeling provisions in the subsidiary labeling table in paragraph (a)(2). These provisions require subsidiary hazard labeling for Class 8 Packing Group III materials and Class 3 Packing Group III materials except for Class 3 Packing Group III materials having a flash point at or above 38°C (100°F) when transported by highway or rail. In addition, paragraph (a)(1) is revised to clarify that if Column 6 of the § 172.101 Table indicates a subsidiary label for which there is an exception in paragraph (a)(2) of § 172.402, the exception applies. This revision is based on the merit of comments urging consistency in subsidiary labeling provisions.

In the NPRM, RSPA discussed a change adopted in the eighth revised edition of the UN Recommendations which removed the STOW AWAY FROM FOODSTUFFS label and placard and replaced them with the POISON label and placard for materials having either a primary or secondary hazard in Division 6.1 Packing Group III. As noted previously, RSPA is addressing this issue in a rulemaking action under Docket HM-217; however, RSPA believes that a package containing a material meeting Division 6.1 Packing Group III criteria as either a primary or subsidiary hazard should bear a label which communicates a warning that the material must be kept separate from foodstuffs when transported domestically by any mode. This was discussed in the preamble of the notice, and the proposed changes to the § 172.101 Table included the addition of a KEEP AWAY FROM FOOD label in Column 6 for each affected entry. However, RSPA inadvertently neglected, in the § 172.402(a)(2) proposed regulatory text changes, to remove the "N" at the intersection of row "III" and column "6.1" and replace it with an "X". Commenters on this

issue opposed any required domestic labeling of materials having a subsidiary hazard of Division 6.1 Packing Group III. Both HMAC and the Conference on Safe Transportation of Hazardous Articles (COSTHA) stated that any proposed changes should be deferred for consideration under Docket HM-217. In addition, COSTHA noted potential changes to UN toxicity classification criteria and claimed that adopting harmonized toxicity criteria will decrease the number of liquids in Division 6.1 Packing Group III. COSTHA encouraged RSPA not to revise provisions for the labeling and placarding of Division 6.1 Packing Group III materials until the UN and DOT have completed harmonization efforts.

The preamble section review in the NPRM clearly expressed RSPA's intent to revise § 172.402(a)(2) to replace the "N" with an "X" (which would have the effect of requiring subsidiary labeling for materials having a Division 6.1 Packing Group III subsidiary hazard). RSPA believes that materials having a primary or secondary hazard of Division 6.1 PG III pose a risk not only of food contamination, but also dermal and inhalation hazards sufficient to warrant hazard communication. Therefore, RSPA is adopting the requirement for subsidiary hazard labeling for Division 6.1 Packing Group III materials when transported in any mode.

Also, new subsidiary labeling requirements for Class 2 materials are added as paragraphs (f) and (g). Several commenters requested clarification of proposed paragraph (f) regarding a Division 2.2 material that meets the definition of an oxidizer. RSPA is clarifying in this final rule that a Division 2.2 material may meet the definition of an oxidizing gas, as defined in § 171.8.

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

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

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

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

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

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

Part 173

Section 173.2a. Consistent with the UN Recommendations, the Precedence of Hazards Table is adopted as proposed to account for combinations of Division 4.2 and Class 8 materials which currently are denoted as impossible combinations. In addition, two new notes are added at the end of the paragraph (b) table. Note 1 specifies that, for materials having multiple risks which are not listed by technical name in the § 172.101 Table, the most stringent packaging group must be used. Note 2 is added to specify the class assignment for a material which meets the definition of Class 8 and has an inhalation toxicity by dusts and mists at the Packing Group I level.

Section 173.21. A revised reference to the § 173.224 self-reactive materials table is adopted as proposed to reflect changes to the table.

Section 173.22. Revised paragraph (a)(3)(i) is adopted as proposed to indicate that the marking appearing on the bottom of a metal or plastic drum in accordance with § 178.503 is not an acceptable means of determining if the drum is an authorized packaging. Paragraph (a)(2) is revised to recognize packagings manufactured outside the U.S. as provided in § 173.24(d)(2), and paragraph (a)(4) is revised to limit notification provisions to packagings manufactured in the U.S.

Section 173.24. Paragraph (d) is adopted as proposed to specify the conditions under which foreign-manufactured packagings may be used. The revision stipulates the conditions under which foreign-manufactured UN packagings may be filled and used in the U.S. Only packagings from countries affording the same degree of acceptance to U.S.-manufactured packagings may be used. Several commenters did not realize that this proposed revision applies to empty packagings being imported into the U.S. for filling. They thought that the proposal applied to packagings already filled with a hazardous material before being imported into the U.S. Provisions concerning the import of filled packagings are contained in §§ 171.11, 171.12, and 171.12a and are not amended in this final rule. Other commenters expressed concern as to the ability of U.S. shippers to determine which countries recognize U.S. packagings. Two commenters suggested that RSPA periodically publish a notice in the Federal Register, listing those countries that do not recognize U.S.

manufactured UN standard packagings. Several commenters objected to the issue of reciprocity being addressed in a rulemaking action, claiming this is a political issue. One alternative suggested by commenters is to consider and resolve such issues at the UN or by the competent authorities of the countries involved. RSPA agrees that every effort should be made by the competent authority of each country involved to resolve reciprocity issues. RSPA would only resort to declaring a country as not providing reciprocal treatment for UN standard packaging manufactured in the U.S. in a **Federal Register** notice after exhausting attempts to resolve differences through negotiation.

In addition, revised paragraph (e)(4)(ii) is adopted as proposed to prohibit hazardous materials from being packed or mixed with other hazardous or nonhazardous materials in the same outer packaging if such materials are capable of reacting with each other and causing the evolution of "asphyxiant gases."

Section 173.25. Paragraph (a) is adopted as proposed to refer to the definition of "Overpack" in § 171.8, which also is amended to provide examples of suitable overpacks. Commenters generally supported the proposed revision; however, based on several comments, there appears to be confusion regarding the current provisions for overpacks, specifically concerning the marking, labeling and use of shrink- or stretch-wrapped pallets. Currently, shrinkwrap is considered an overpack when consolidating packages on a pallet. The overpack must be marked and labeled for each hazardous material contained therein unless markings and labels representative of each hazardous material are visible. If packages are stacked and banded on a pallet, the packages should be positioned, when possible, so that the markings and labels are visible on the outside of the stack.

Paragraph (b) is added as proposed to authorize shrink-wrapped or stretch-wrapped trays as outer packagings for inner packagings prepared under limited quantity or consumer commodity provisions if the completed package is capable of meeting the Packing Group III performance level and the gross weight of the package does not exceed 20 kg. This proposal generated opposition from carriers, who claimed that shrink wrap as an outer packaging does not provide adequate protection from the rigors of transportation and should not be authorized. However, at least one of these commenters was referring to a shrink-wrapped pallet

rather than a package limited to 20 kg (44 pounds) gross weight. On the other hand, commenters such as COSTHA strongly supported this proposal, but requested that RSPA maintain consistency with the UN Recommendations by authorizing the use of shrink-wrapped or stretch-wrapped trays as outer packagings without imposing a requirement that these completed packagings be capable of passing Packing Group III performance tests.

Section 173.28. RSPA is not adopting a proposed revision to paragraph (b)(1), based on the merit of a comment suggesting the sentence duplicates the provisions of § 173.24(d) and should only apply to the reuse of packagings required to meet performance standards, not to the reuse of all packagings. The Association of Container Reconditioners (ACR) urged RSPA to revise the footnote to the table in paragraph (b)(4), to restore the minimum thicknesses to what was required when the final rule was published on December 21, 1990. ACR pointed out that in corrections and amendments made in 1991, the footnote to the table in paragraph (b)(4) had been revised to allow reuse of metal drums with a minimum wall thickness of 0.8 mm and minimum head thickness of 1.1 mm. ACR asked that the note be revised to reference minimum thicknesses of 0.82 mm and 1.09 mm. Since these changes were not proposed in the NPRM, RSPA is not revising the minimum thicknesses at this time; however, the number "0" has been added after the last digit in each instance for clarity.

A commenter expressed confusion over the requirement for the nominal or minimum thickness to be permanently marked on a packaging that is to be reused. The commenter stated that it appeared that the marking could be either the nominal or minimum thickness. Paragraph (b)(4) has been revised to clarify that the nominal thickness is marked on metal packagings, and the minimum thickness must be marked on plastic packagings which are to be reused.

New paragraph (b)(7) is added to waive requirements for leaktesting prior to each reuse to certain packagings used in limited operations. The NPRM proposed to waive retesting requirements for stainless steel, monel, or nickel drums, which are constructed with a thickness at least one and one half times the minimum required by § 173.28(b)(4), and which are refilled with the same or similar compatible contents and transported by a private carrier, contract carrier, or common carrier in a transport vehicle or freight

container used exclusively for such service, within a distribution chain controlled by the offeror.

Commenters overwhelmingly supported RSPA's proposed paragraph (b)(7). Numerous commenters suggested that RSPA extended the provisions of paragraph (b)(7) to plastic drums in addition to stainless steel, monel, and nickel drums. The commenters cited the high costs that would be incurred by plastic drum users if leak testing were required prior to each use. Many commenters stated that the leak test itself could cause damage to plastic drums over time, due to the bulging of the packaging caused by internal pressure. Commenters asked that RSPA revise paragraph (b)(7) to be more consistent with the UN Recommendations, which require leak testing for plastic drums only after reconditioning.

RSPA recognizes that the UN Recommendations do not require a packaging to be leakproofness tested before it is reused for transport, but only after it is reconditioned. However, RSPA notes that the UN Recommendations, at section 9.6.7.2., limit the period of use for plastic drums and jerricans to five years from the date of manufacture. The HMR do not currently place a limit on the period of use for plastic drums. RSPA believes that under certain controlled conditions, plastic drums can be used safely without leak testing prior to each reuse.

Upon further consideration of the leakproofness testing requirements for plastic drums, RSPA has determined that the types of damage to plastic drums caused by normal transportation stresses include puncture, abrasion of plastic material, and loose or damaged closures. RSPA believes that these types of damage can be detected by a thorough visual examination by a person who is qualified to identify such damage. RSPA also believes that damage to plastic drums from abrasion, puncture, and damaged fittings can be minimized with careful handling. For that reason, RSPA believes that plastic drums used in distribution chains controlled by the offeror can be used safely without leak testing prior to each reuse. However, damage caused by incompatibility of the product being shipped with the plastic of the drum would not be detected through an external visual examination. Because such damage can happen and worsen over time, RSPA believes that after five years of use, a plastic drum should be subjected to a leak test prior to each reuse for the shipment of liquid hazardous materials.

New paragraph § 173.28(b)(7) authorizes the reuse, without leak

testing, of certain drums including those constructed of stainless steel, monel, nickel, and plastic. In order to ensure an appropriate level of safety, when stainless steel, monel, or nickel drums are reused without undergoing leakproofness testing, they are required to meet more stringent thickness standards than prescribed in paragraph (b)(4). Plastic drums may be reused without undergoing leakproofness testing only for five years from the date of manufacture, consistent with the UN Recommendations. After five years from the date of manufacture, such drums could continue to be used only if leakproofness tested prior to each reuse. Metal and plastic drums can only be reused without leak testing when refilled with the same or similar contents, and transported by a private carrier, contract carrier, or common carrier in a transport vehicle or freight container used exclusively for such service, within a distribution chain controlled by the offeror. As proposed in the NPRM, other packagings could qualify only if approved by the Associate Administrator for Hazardous Materials Safety. In any case, a packaging which, upon visual examination, shows evidence of a reduction in integrity must be reconditioned and, if applicable, leak tested, before being reused.

RSPA does not agree with commenters who suggested that the waiver of leak testing requirements be extended to metal drums other than those made from stainless steel, monel, and nickel. Transportation stresses typically can cause leakage, from the chime seams of these drums, that is most appropriately detected through the performance of a leakproofness test.

In addition, paragraph (c)(1)(i) is revised to clarify that only external coatings must be removed when reconditioning metal drums.

Section 173.33. Paragraph (c)(5) is amended as proposed to limit the provisions of the paragraph to materials in Packing Groups I and II of Division 6.1.

Section 173.52. The descriptions of Compatibility Group B is revised to clarify that detonators and similar articles are included within this description even if they do not contain primary explosives. In addition, in the descriptions for Compatibility Groups E and F, the word "gel" is added to clarify that articles with a propelling charge containing gel may not be classified in Compatibility Group E or F.

Section 173.59. The definitions "powder, smokeless," "propellants," and "charges, propelling" are revised and definitions for "charges, propelling,

for cannon," "propellant, liquid," and "propellant, solid" are added.

Section 173.60. Paragraph (b)(15) is added to require all plastic packagings to be static-resistant.

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

Section 173.115. The definition of a Division 2.2 gas is expanded to include asphyxiant and oxidizing gases. However, based on comments received, the definition is revised to be more consistent with the definition in the UN Recommendations. In addition, the definitions of asphyxiant gas and oxidizing gas proposed in the NPRM have been moved to § 171.8.

Section 173.120. RSPA received several comments supporting the new exceptions for Class 3 materials. Some of these commenters requested that these exceptions be extended to the definition of combustible liquids. Through RSPA agrees that similar exceptions should be adopted for the definition of combustible liquid, the exceptions have been established for materials with a flash point of 141 °F or below. The tests may not be appropriate for a material with a flash point of below 200 °F. Therefore, RSPA is unable to adopt this suggestion. However, if data is provided to support adoption of these test methods, or a modified form thereof, RSPA will initiate a new rulemaking action to adopt these exceptions for combustible liquids.

Section 173.121. Criteria for including viscous Class 3 materials in Packing Group III is revised. Several modifications to the method are provided when the temperature of the flash point is too low for the standard procedures. The table in § 173.121(b)(1)(iv) is amended for consistency with the eighth revision of the UN Recommendations.

Section 173.124. The definition of self-reactive materials is revised to

conform to the changes in the UN Recommendations, which now contains "generic" shipping descriptions. Seven types of self-reactive material (Types A-G) are defined in paragraph (a)(2). The procedure for assigning a specific self-reactive material to a generic type is set forth in paragraph (a)(2)(vi). If a self-reactive material is identified by technical name in the Self-Reactive Materials Table in § 173.224, the generic type is assigned in that Table. The lengthy process by which importing and exporting countries agree on the packaging requirements or assignment of a shipping description for a new self-reactive material is avoided by using this procedure.

Section 173.128. Editorial revisions are made in paragraphs (a), (c)(2) and (c)(3), paragraph (b)(7) is clarified and procedures for obtaining approvals are clarified in revised paragraph (d).

Section 173.136. RSPA received several comments on the adoption of the OECD Guidelines in the definition of Class 8 (corrosive materials). Some commenters supported the proposed change, while others opposed it and requested that RSPA not adopt it. Those that opposed the change to the Class 8 definition cited problems with retesting of chemicals tested under the old definition, moistening of solid materials before testing, and "full thickness testing." The changes adopted in this final rule to the definition of Class 8 are a refinement of the existing definition. RSPA will not require the retesting of materials that have been classified under the test method previously found in Appendix A of Part 173. In addition, the new definition will not expand significantly the number of materials subject to the HMR. Although the OECD Guidelines require appropriate moistening of a solid material before application to the skin, this minuscule amount of liquid should have no effect on the outcome of the test. In addition, review of some past testing of corrosive solids indicates that moistening is already being used as a vehicle to assure good contact with the skin. As stated by one commenter, the new definition will provide standardization in classifying these materials; make more definitive information available to emergency responders, drivers, cargo handlers, and others; and will facilitate the safe handling and emergency response procedures for corrosive materials. Therefore, RSPA is adopting the changes to the definition of Class 8 and assignment of Class 8 Packing Groups, as proposed.

Section 173.150. RSPA proposed to add language in the introductory text of § 173.150(b) to specifically address

combustible liquids in the limited quantity provisions. RSPA received a comment in opposition to this proposal stating that there is no difference in the way combustible liquids that are hazardous substances or hazardous wastes (versus non-hazardous substances or non-hazardous wastes) are treated under the current wording of these provisions. However, combustible liquids in non-bulk packagings that meet the definition of a hazardous substance, hazardous waste, or marine pollutant currently are subject to shipping paper, marking, placarding and other requirements set forth in § 173.150(f)(3). RSPA is adopting the proposed language to clarify that combustible liquids are eligible for the limited quantity exceptions if they are packaged accordingly.

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

Section 173.158. Based on the merits of a comment and a petition for rulemaking (P-1170), a new paragraph (f)(3) is added for nitric acid of 70 percent or less to authorize combination packagings consisting of inner plastic packagings individually overpacked in tightly closed metal packagings, and further packed in an outer packaging, such as a drum or box. This packaging currently is authorized for transportation in cargo aircraft only, but there is no comparable authorization for transport in other modes. Offerors of nitric acid in plastic packagings are reminded of the compatibility requirements specified in § 173.24(e).

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

Section 173.166. This section is amended to limit its applicability to air bag inflators and modules showing certain specified results when subjected to a bonfire test. Airbag modules and inflators not meeting the test criteria must be transported as explosives. RSPA received several comments on the transportation of airbags, many of which were outside the scope of this rulemaking. One commenter requested that RSPA revise proposed proper shipping names for airbags, but did not provide sufficient justification for adding a domestic-only proper shipping

name for these commodities. The comments requesting new packaging authorization and removal of the Ex-number marking requirements have been denied because they are considered beyond the scope of this rulemaking.

Section 173.168. RSPA proposed the addition of a separate section to define a "nonspillable battery," establish separate requirements for nonspillable batteries (as opposed to the requirements for wet batteries contained in § 173.159), and provide vibration and pressure differential testing criteria. Except when transporting a wheelchair or other battery-powered mobility aid equipped with a nonspillable battery by air as checked baggage, a nonspillable battery which is protected against short circuits, securely packaged and durably marked is not subject to any other HMR requirements. After further deliberation, RSPA has decided not to create a separate section for nonspillable batteries and, therefore, provisions for these batteries will remain in § 173.159.

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

Section 173.185. RSPA is amending the requirements for lithium batteries consistent with changes in the UN Recommendations. While the new requirements apply more severe test requirements to lithium batteries, they also allow batteries with higher quantities of lithium to be transported without being subject to the regulations, provided specified criteria are met. Existing batteries previously allowed to be transported as Class 9 batteries may continue to be transported under the present requirements indefinitely if the present requirements are met. One commenter to this section asked why rechargeable batteries are no longer specifically mentioned in the section. Rechargeable batteries are no longer mentioned in the section because such batteries are being treated in the same manner as other lithium batteries.

Section 173.189. RSPA received two comments on the proposed transport of sodium batteries. One commenter requested that sodium batteries installed in motor vehicles be excepted from the HMR, and the other requested that sodium batteries be allowed to contain polysulfides. RSPA concurs with these commenters and has revised this proposed section accordingly.

Section 173.196. RSPA is adopting the proposed revision to paragraph (f) to clarify that either the inner receptacle or the outer packaging for infectious substances must be capable of

withstanding the prescribed pressure differential.

Section 173.211-213. These sections are adopted as proposed to change packaging identification codes (for steel boxes from 4A1 to 4A2 to 4A and for aluminum boxes from 4B1 and 4B2 to 4B) for consistency with international requirements.

Section 173.224. This section is revised based on the UN Recommendations. Paragraph (b) sets forth the Self-Reactive Materials Table which identifies the technical name for specific self-reactive materials, the identification number which is used to select the appropriate generic shipping description, specifications for concentrations of the self-reactive material, packing methods that may be used, temperature control requirements, and additional special provisions. The existing packing methods for self-reactive materials are replaced with the packing methods for organic peroxides which are prescribed in § 173.225.

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

Section 173.225. In § 173.225, paragraph (a) is revised to prohibit the use of metallic non-bulk packagings meeting a Packing Group I packaging standard. Paragraph (c)(5) is added to authorize the transportation of mixtures of organic peroxides that are specifically identified in the Organic Peroxides Table without approval by the Associate Administrator for Hazardous Materials Safety. In addition, the Organic Peroxide Table is revised to add new organic peroxides adopted in the UN Recommendations. Several miscellaneous changes, based on comments, have been made to the Table. In addition, for use domestically, RSPA is adding 12 new organic peroxides that are not listed in the UN Recommendations but have been approved by RSPA for domestic transportation.

Section 173.304. In the paragraph (a)(2) table, for the entry "carbon dioxide," an erroneous reference to a DOT-311800 cylinder is corrected to authorize a DOT-3T1800 cylinder for carbon dioxide.

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

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

Appendix E to Part 173. New criteria are added for self-reactive materials possessing explosive properties, and an editorial change is made to clarify that powders of metals or metal alloys that can be ignited are classified in Division 4.1.

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

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

Part 175

Section 175.10. The phrase "environmental restoration or protection" is added as an exception in paragraph (a)(12) to clarify that certain aircraft operations pertaining to environmental restoration may be conducted under the provisions of this paragraph. Exceptions for carbon dioxide (dry ice) are consolidated into paragraph (a)(13) to except this material from regulation from Part 175 when it is used as a refrigerant for a package, intended for use in food or beverage service aboard an aircraft, or used to pack perishables in carry-on baggage. Based on the merit of two comments, proposed paragraph (a)(4) more closely adopts the language of the ICAO Technical Instructions to permit non-radioactive medicinal or toilet articles (including aerosols) in either carry-on baggage or checked baggage. It also permits aerosols in Division 2.2 having no subsidiary risk, if intended for sporting or home use, in checked baggage. In addition, a new paragraph (a)(26) is added to except from regulation small medical or clinical mercury thermometers carried by

passengers or crew members for personal use.

Section 175.33. Paragraph (a)(1) is revised to require that a compatibility group letter for a Class 1 material be included in the written notification to the pilot-in-command. RSPA also proposed to add a new paragraph (a)(9) to require an aircraft operator to include an air waybill number where one has been issued. However, based on the merit of a comment from the Air Transport Association, RSPA agrees that the placement of an airway bill number on the notification does nothing to enhance safety. Therefore, this proposed requirement is not adopted.

Part 176

Section 176.27. RSPA proposed the addition of a new paragraph (c) to reference a container packing certificate required under the provisions of the SOLAS Convention and the IMDG Code. Commenters to this proposal did not object to its addition, but suggested that the certification contain a reference to the section outlining the requirements rather than a certification that each of the requirements have been met. RSPA agrees, and is revising proposed paragraph (c)(2). In addition, the Hazardous Materials Advisory Council (HMAC) and the Chemical Manufacturers Association (CMA) asked RSPA to clarify that the container packing certificate is to be presented to the vessel carrier at the time the hazardous materials are offered for transportation by vessel. A clarification is added in paragraph (c)(1) in response to this request.

Section 176.76. A new paragraph (i) is adopted as proposed to address the transport of fumigated transport units on vessels. These fumigation requirements are in addition to the fumigation requirements contained in § 173.9. The new vessel requirements are generally consistent with the IMDG Code requirements for transporting fumigated transport units and are consistent with Special Permits currently being issued by the Coast Guard for U.S. maritime transport of fumigated transport units.

Part 177

Section 177.841. Revised paragraph (e)(3) is adopted as proposed to specify requirements for separating Division 6.1 Packing Group III materials from foodstuffs, consistent with provisions in § 177.848.

Part 178

Section 178.2. Changes to paragraphs (a) and (e) are adopted as proposed. Paragraph (a) is revised to clarify that

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

Section 178.3. One commenter thought that the location of manufacture should be immaterial to the use of the "USA" mark. This commenter stated that the "USA" mark should be described as simply indicating compliance with Part 178, regardless of where the packaging is physically manufactured and asked RSPA to clarify the use of the marking "USA" for a DOT specification or UN specification packaging that is manufactured in the U.S. or in another country. RSPA believes that a "USA" marked packaging should be manufactured and marked only in the U.S., and that packagings manufactured in the U.S. must be marked "USA" and comply with Part 178.

Section 178.502. In paragraph (a) introductory text and paragraph (a)(1), the terms "type" or "types" of packagings are revised for consistency with international regulations to read "kind" or "kinds" of packagings.

Section 178.503. As proposed in the NPRM, this section is revised to incorporate changes in the UN Recommendations with regard to the marking of non-bulk packagings. Consistent with the UN Recommendations, each packaging certified to a UN standard must have a series of markings which describe the packaging and its characteristics. The Steel Shipping Container Institute (SSCI) objected to the lower weight limit for packagings which would be required to be marked on the top or side, suggesting that a capacity limit, such as 30 liters, would be more appropriate. SSCI pointed out that, if all packagings over 30 kg are required to be marked on the side or top, packagings as small as 5 gallons, if they are used to ship very dense products, must be marked this way. In the UN Recommendations, and as proposed in the NPRM, the threshold of 30 kg above which packagings must be marked on the top or a side is intended to represent the maximum weight that a person can reasonably be expected to lift in order to see the markings on the bottom of a package. The important consideration is weight, rather than capacity, and therefore the

30 kg size limit, after which markings must be applied on the top or side, is adopted in this final rule. This requirement has been moved to § 178.3(a)(5) to appear with related marking requirements.

Currently, § 178.503 requires that metal or plastic drums or jerricans intended for reuse be marked with the minimum thickness of the packaging material. Consistent with the UN Recommendations, in this final rule metal drums and jerricans intended for reuse must be marked with the nominal thickness. The nominal thickness marked must be in accordance with ISO 3574; that is, the nominal thickness marked may only exceed the actual minimum thickness of the packaging material by the tolerance specified in ISO 3574. A commenter suggested that RSPA clarify, for a metal packaging marked with a nominal thickness, what the minimum thickness must be. In this final rule, a table indicating what minimum thickness corresponds to the nominal thickness specified in ISO Standard 3574, for various packaging capacities, has been added to a new Appendix C to Part 178. Packagings to be used are still subject to the minimum thickness requirements of § 173.28. Because the eighth revised edition of the UN Recommendations did not address thickness requirements for plastic packagings, plastic drums and jerricans intended for reuse must continue to be marked with the minimum thickness of the packaging material.

In addition to the full marking on the top or side of a metal drum having a capacity greater than 100 liters, paragraph (a)(10) requires a permanent marking of the drum characteristics on the bottom of the drum. The country authorizing the mark and the name and address of the manufacturer are not required as part of this permanent mark. This marking identifies the packaging as it was originally manufactured, and may not necessarily be used to determine compliance with packaging requirements. For example, if a non-removable head drum has been converted to a removable head drum, this conversion is not reflected in the marking on the bottom of the drum, but is evident in the top or side marking. For drums marked permanently on the bottom, the top or side mark is not required to be permanent (i.e., able to withstand the reconditioning process). RSPA is not adopting a commenter's suggestion that the permanent marking on the bottom of a drum not be required if the markings appearing on the top or side of the packaging are permanent. RSPA believes this type of change

should be considered first by the UN Committee of Experts.

As proposed in the NPRM, the additional permanent marking on the bottom of a drum would have applied to plastic drums as well as metal drums. Several commenters objected to this proposal as it applied to plastic drums. RSPA notes that the UN Recommendations do not require plastic drums to bear the additional permanent marking on the bottom of the drum, and most plastic drums are permanently marked on the side. Based on the merit of comments, and consistent with the UN Recommendations, RSPA is limiting the additional marking requirement of paragraph (a)(10) to metal drums with a capacity greater than 100 liters.

Based on comments from ACR, the marking requirements for metal drums with a capacity greater than 100 liters have been revised in this final rule for greater consistency with the UN Recommendations, and for clarity. As proposed in the NPRM, the permanent marking requirements of paragraph (a)(10) would have applied only to those metal drums "intended for reuse or reconditioning as a single packaging or the outer packaging of a composite packaging." ACR stated that the determination of suitability for reuse or reconditioning is not made by the manufacturer. RSPA agrees, and the qualifier "intended for reuse or reconditioning" is not adopted in this final rule.

A commenter was concerned that a semi-permanent label would not be considered "durable" for purposes of the UN marking. RSPA would consider the use of a printed label to satisfy the requirement for "durable" markings, provided the label can withstand the rigors of normal transportation.

Paragraph (c) specifies additional requirements for markings on reconditioned metal drums. The paragraph requires that reconditioners reapply markings which no longer appear on drums after the reconditioning process. A reconditioner can duplicate the original markings or apply markings which reflect a lower performance level, but cannot apply markings which identify a performance level greater than that for which the original design type had been tested and marked.

A new paragraph (d) clarifies marking requirements for remanufactured packagings. Based on a comment from ACR, paragraph (d) specifies that required markings need not be permanent on remanufactured metal drums for which there is no change to the packaging type, and no replacement of integral structural components. All

other remanufactured metal drums must be permanently marked on the top or side. This paragraph was not proposed in the NPRM, but is considered necessary to ensure that packagings can be properly marked after remanufacture, when it may not be possible to permanently mark on the bottom.

Section 178.512. Standards for steel boxes and aluminum boxes are consolidated by removing the distinction between unlined/uncoated steel or aluminum boxes and steel or aluminum boxes having an inner liner or coating. Therefore, both unlined and lined steel boxes are identified as 4A and unlined and lined aluminum boxes are identified as 4B. Corresponding revisions are reflected in the packaging authorizations of Part 173.

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

Section 178.516. Paragraph (b)(1) contains an updated reference to ISO Standard 535-1976(E). Paragraph (b)(2) is revised to authorize the ends of fiberboard boxes to be constructed of suitable materials other than wood, which is already authorized. As proposed in the NPRM, paragraph (b)(3)(iii) is redesignated as (b)(4) to clarify that the requirement for water-resistant adhesive applies to all box closures, and not only the manufacturer's joint. In its comments, 3M suggested that RSPA include ASTM D5570, Standard Test Method for Water Resistance of Tape and Adhesives Used as a Box Closure, as a standard for determining the water resistance of adhesives used in 4G boxes. Since RSPA did not propose such a standard in the NPRM, the suggestion is not adopted in this final rule.

Section 178.521. In paragraph (b)(2), the term "water-resistant" is revised to "waterproof", and examples of a waterproof ply or barrier are provided.

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

Section 178.601. Paragraph (b) is adopted as proposed to limit the responsibility of shippers to those packaging assembly functions they actually perform or are responsible for performing. A revision to paragraph

(b)(2) removes the shipper responsibility provision regarding packaging fabrication and testing functions not performed by the shipper. Only one commenter did not favor this proposal. The Society of the Plastics Industry believed that a shipper should share some responsibility for compliance, such as obtaining a certification from the packaging manufacturer for each type of packaging used in hazardous materials service. Paragraph (g)(2)(i) is revised to clarify that selective testing under Variation 2 requires the fragile inner packagings to contain liquids. A new sentence is added to the end of paragraph (g)(2)(vi) to clarify that where outer packagings are not leakproof or siftproof and consequently require some type of leakproof liner, plastic bag or other means of containment, sufficient absorbent material must be placed inside the liner or bag. A new paragraph (k) is added to permit several tests to be performed on one sample if the validity of test results is not affected and if approved by the Associate Administrator for Hazardous Materials Safety. Newly designated paragraph (l) is revised as proposed to clarify recordkeeping requirements and provide consistency with test report requirements in the UN Recommendations. One commenter requested clarification of the methods by which a test method is "maintained" at each location where a packaging is manufactured. This commenter asked if a manufacturer's central office could maintain records when multiple locations are involved and provide access through a computer data base or fax. "Maintained" as provided in § 178.601(l) is limited to hard copies of test reports or electronic storage of reports at each manufacturing location. Inspectors cannot conduct inspections without test records to compare to the packages. Therefore, the company may maintain records at a central office so long as the company is capable of providing hard copy reports in a timely manner to an inspector at the time of inspection. SSCI pointed out that paragraph (l)(10) is redundant with paragraph (l)(1) in that both require an identification of the address of the test facility. RSPA agrees, and paragraph (l)(10), as adopted, requires the title, rather than the address, of the signatory to be included.

Section 178.602. In paragraph (c) a reference to "§ 178.603(d)(2)" is corrected to read "§ 178.603(e)".

Section 178.603. In paragraph (a), a new provision is added to require that the drop test be performed using the package orientation most likely to result in failure if more than one orientation

is possible. Paragraph (c) is revised to clarify that the cold drop test outlined in this paragraph applies only to plastic packagings, and applies to combination packagings with inner plastic bags only when the inner packagings are intended to contain liquids. A revision to paragraph (f)(1) clarifies that inner packagings of combination packagings are not required to be vented to reach equilibrium after the drop test.

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

Section 178.606. For consistency with the UN Recommendations, a phrase is added in paragraph (c)(1) to clarify that the force to be applied, when a test sample contains a non-hazardous liquid with a specific gravity different from the hazardous liquid intended for transport, must be calculated based on the specific gravity that will be marked on the packaging.

Appendix C to Part 178. A new Appendix C is added to Part 178 to incorporate a table indicating the corresponding nominal and minimum thicknesses for packagings of varying capacities, in accordance with ISO Standard 3574.

Rulemaking Analyses and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

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

B. Executive Order 12612

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 ("Federalism"). Federal law expressly preempts State, local, and Indian tribe requirements applicable to the transportation of hazardous material that cover certain covered subjects and are not substantively the same as Federal requirements. 49 U.S.C. 5125(b)(1). These subjects are:

- (A) The designation, description, and classification of hazardous materials;
- (B) The packing, repacking, handling, labeling, marking, and placarding of hazardous material;
- (C) The preparation, execution, and use of shipping documents pertaining to

hazardous material and requirements respecting the number, content, and placement of such documents;

(D) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; and

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

This final rule concerns classification, packaging, labeling, marking, shipping documentation, and manufacture of packaging for hazardous material. Therefore, this final rule preempts State, local, or Indian tribe requirements that are not substantively the same as Federal requirements on these subjects.

Section 5125(b)(2) of title 49 U.S.C. provides that when DOT issues a regulation concerning any of the covered subjects, DOT must determine and publish in the *Federal Register* the effective date of Federal preemption. That effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption for these requirements will be October 1, 1995. Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

C. Regulatory Flexibility Act

This rule incorporates changes introduced in the seventh and eighth revised editions of the UN Recommendations, the 1993-1994 and 1995-1996 ICAO Technical Instructions, and Amendments 26 and 27 to the IMDG Code. It applies to offerors and carriers of hazardous materials and facilitates the transportation of hazardous materials in international commerce by providing consistency with international requirements. If this rule is not adopted, U.S. companies, including numerous small entities competing in foreign markets, will be forced to comply with a dual system of regulation, to their economic disadvantage. Therefore, I certify that this rule will not have a significant economic impact on a substantial number of small entities.

D. Paperwork Reduction Act

The requirements for information collection have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 95-511) under OMB control number

2137-0034 for shipping papers and 2137-0557 for approvals.

E. Regulation Identifier Number (RIN)

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

List of Subjects

49 CFR Part 171

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

49 CFR Part 172

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

49 CFR Part 173

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

49 CFR Part 175

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

49 CFR Part 176

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

49 CFR Part 177

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

49 CFR Part 178

Hazardous materials transportation, Motor vehicles safety, Packaging and

containers, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR Chapter I is amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 continues to read as follows:

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

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

§ 171.7 Reference material.

(a) * * *

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

Source and name of material	49 CFR reference
American Society for Testing and Materials	
ASTM G 31-72 (Reapproved 1990) Standard Practice for Laboratory Immersion Corrosion Testing of Metals	173.137
International Organization for Standardization	
ISO 3574-1986(E) Cold-reduced carbon steel sheet of commercial and drawing qualities	178.503
ISO 2592-1973(E) Petroleum products—Determination of flash and fire points—Cleveland open cup method	173.120
ISO 9328-1-1991(E) Steel plates and strips for pressure purposes—Technical delivery conditions—Part 1: General requirements	173.137
Organization for Economic Cooperation and Development (OECD)	
OECD Publications and Information Center, 2001 L Street, Suite 700, Washington, DC 20036	
OECD Guideline for Testing of Chemicals, No.404 "Acute Dermal Irritation/Corrosion", 1992	173.137

§ 171.7 [Amended]

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

a. In the entry ASTM D 56-79, the wording "D 56-79 Standard Method of Test for Flash Point by Tag Closed Tester" is revised to read "D 56-93 Standard Test Method for Flash Point by Tag Closed Tester".

b. In the entry ASTM D 93-80, the wording "D 93-80 Standard Method of Test for Flash Point by Pensky Martens Closed Tester" is revised to read "D 93-

90 Standard Test Methods for Flash Point by Pensky-Martens Closed Tester".

c. In the entry ASTM D 3278-78, the wording "D 3278-78 Flash Point of Liquids by Setaflash Closed Tester" is revised to read "ASTM D 3278-89 Standard Test Methods for Flash Point of Liquids by Setaflash Closed-Cup Apparatus".

d. In the entry ASTM D 4359-84, the wording "D 4359-84" is revised to read "ASTM D 4359-90".

e. Under International Civil Aviation Organization (ICAO), for the entry "Technical Instructions for the Safe

Transport of Dangerous Goods by Air", the date "1993-1994" is revised to read "1995-1996".

f. Under International Maritime Organization (IMO), the entry "International Maritime Dangerous Goods (IMDG) Code, 1990 Consolidated Edition, as amended by Amendment 26 thereto" is amended by removing the wording "Amendment 26 thereto" and adding in its place the wording "Amendment 27 (1994)".

g. Under International Organization for Standardization, the wording "ISO-535-1976(E) Paper and Board—Determination of Water Absorption—

Cobb Method" is revised to read "ISO-535-1991(E) Paper and board—Determination of water absorptiveness—Cobb method".

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

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

j. Under United Nations, for the entry "UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Second Edition, 1990", in column 2, the references "173.124;" "173.128;" "173.166;" and "173.185" are added in appropriate numerical order.

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

§ 171.8 Definitions and abbreviations.

[Add:]

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

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

Oxidizing gas means a gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does.

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

[Revise:]

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

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

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

- (1) Placed or stacked onto a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means; or
- (2) Placed in a protective outer packaging such as a box or crate.

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

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

§ 171.11 [Amended]

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

§ 171.12 [Amended]

6. In § 171.12, in paragraph (b) introductory text, in the second sentence, the wording "stowed and segregated, and certified in accordance with the IMDG Code" is revised to read "stowed and segregated, and certified (including a container packing certification, if applicable) in accordance with the IMDG Code".

7. Section 171.14 is revised to read as follows:

§ 171.14 Transitional provisions for implementing requirements based on the UN Recommendations.

General. The purpose of the provisions of this section is to provide an orderly transition to new requirements based on the UN Recommendations, so as to minimize any burdens associated with them. Subsequent final rules may implement different time requirements than the transitional provisions in this section. When the effective date section or regulatory text of a final rule imposes a compliance date earlier or later than that which would be required under this section, the transition date in this section does not apply.

(a) A rule published in the *Federal Register* on December 21, 1990, effective October 1, 1991, resulted in a comprehensive revision of this subchapter based on the UN Recommendations. Final rules published in the *Federal Register* on December 20, 1991 effective October 1, 1991, October 1, 1992 effective October 1, 1992, September 24, 1993 effective October 1, 1993, and September 22, 1994 effective September 22, 1994, further revised the December 21, 1990 final rule. Prior to an applicable transition date in paragraph (a)(1) of this section, a person may elect to comply with either the applicable requirements of this subchapter in effect on September 30, 1991, or the requirements of this subchapter appearing in the December 20, 1990 rule, as revised in final rules published in the *Federal Register* on December 20, 1991, October 1, 1992, September 24, 1993, and September 22, 1994.

(1) *Transition dates.* The following transition dates apply only to requirements in the December 21, 1990 rule, as revised in the December 20, 1991, October 1, 1992, September 24, 1993, and September 22, 1994 final rules:

(i) *January 1, 1995.* On January 1, 1995, all applicable regulatory requirements, including those pertaining to classification (see § 173.134 of this subchapter), hazard communication, and packaging, are effective for Division 6.2 materials (infectious substances) other than regulated medical waste and infectious substances affecting animals only.

(ii) *October 1, 1995.* On October 1, 1995, all applicable regulatory requirements, including those pertaining to classification (see § 173.134 of this subchapter), hazard communication, and packaging are

effective for regulated medical waste (Division 6.2) and infectious substances affecting animals only (Division 6.2).

(iii) *October 1, 1996.* On October 1, 1996, requirements in Parts 172 and 173 of this subchapter for maintenance and use of packagings that were not previously in effect are effective. (DOT specification packagings removed from Part 178 of this subchapter by the December 21, 1990 final rule and packaging authorizations removed from Part 173 of this subchapter by the December 21, 1990 final rule may no longer be used in place of new packaging requirements.)

(2) *Other transitional provisions—(i) Packages filled prior to October 1, 1991.* Notwithstanding the marking and labeling provisions of Subparts D and E, respectively, of Part 172, and the packaging provisions of Part 173 and Subpart B of Part 172 of this subchapter, a package may be offered for transportation and transported prior to October 1, 2001, if it—

(A) Conforms to the old requirements of this subchapter in effect on September 30, 1991;

(B) Is filled with hazardous materials prior to October 1, 1991;

(C) Is marked "Inhalation Hazard", if appropriate, in accordance with § 172.313 of this subchapter or Special Provision 13, as assigned in the § 172.101 Table; and

(D) Is not emptied and refilled on or after October 1, 1991.

(ii) *Transitional placarding provisions.* Until October 1, 2001, placards which conform to specifications for placards in effect on September 30, 1991, may be used in place of the placards specified in Subpart F of Part 172 of this subchapter, in accordance with the following table:

PLACARD SUBSTITUTION TABLE

Hazard class or division number	Current placard name	Old (Sept. 30, 1991) placard name
Division 1.1	Explosives 1.1	Explosives A.
Division 1.2	Explosives 1.2	Explosives A.
Division 1.3	Explosives 1.3	Explosives B.
Division 1.4	Explosives 1.4	Dangerous.
Division 1.5	Explosives 1.5	Blasting agents.
Division 1.6	Explosives 1.6	Dangerous.
Division 2.1	Flammable gas	Flammable gas.
Division 2.2	Nonflammable gas	Nonflammable gas.
Division 2.3	Poison gas	Poison gas.
Class 3	Flammable	Flammable.
Combustible liquid	Combustible	Combustible.
Division 4.1	Flammable solid	Flammable solid.
Division 4.2	Spontaneously combustible	Flammable solid.
Division 4.3	Dangerous when wet	Flammable solid W.
Division 5.1	Oxidizer	Oxidizer.
Division 5.2	Organic peroxide	Organic peroxide.
Division 6.1, PG I and II	Poison	Poison.
Division 6.1, PG III	Keep away from food	(none required).
Class 7	Radioactive	Radioactive.
Class 8	Corrosive	Corrosive.
Class 9	Class 9	(none required).

(b) A rule published in the **Federal Register** on December 29, 1994, effective October 1, 1995, resulted in further revisions to this subchapter based on the UN Recommendations. During the transition period provided in paragraph (b)(1) of this section, a person may elect to comply with either the applicable requirements of this subchapter in effect on September 30, 1995, the applicable requirements based on the transition dates provided in paragraph (a)(1) of this section, or the requirements of this subchapter appearing in the December 29, 1994, final rule.

(1) *Transition date.* On October 1, 1996, all applicable regulatory requirements adopted in the December 29, 1994, final rule must be met.

(2) *Intermixing old and new requirements.* Prior to the transition date in paragraph (b)(1) of this section, it is recommended that hazard communication requirements be consistent where practicable, i.e., marking, labeling, placarding, and shipping paper descriptions should

conform to either the old requirements of this subchapter in effect on September 30, 1995, or new requirements of this subchapter added or revised by the December 29, 1994, rule, without intermixing of communication elements. However, intermixing is permitted, during the applicable transition period, for packaging, hazard communication, and handling provisions, as follows:

(i) If either shipping names or identification numbers are identical, a shipping paper may display the old shipping description even if the package is marked and labeled under the new shipping description;

(ii) If either shipping names or identification numbers are identical, a shipping paper may display the new shipping description even if the package is marked and labeled under the old shipping description; and

(iii) Either old or new placards may be used regardless of whether old or new shipping descriptions and package markings are used.

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

8. The authority citation for part 172 continues to read as follows:

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

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

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

(c) * * *

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

"n.o.i.b.n." may be used interchangeably with "n.o.s."

(13) *Self-reactive materials and organic peroxides*. 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.

(g) * * * 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.

(k) * * *
(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 three meters 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 three meters 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 three meters of overall vessel length, but is prohibited from carriage

on passenger vessels in which the limiting number of passengers is exceeded.

§ 172.101 [Amended]

10. In addition, in § 172.101, the following changes are made:

a. In paragraph (c)(11) introductory text, the wording "§§ 173.21, 173.51, 173.56(d), or 173.56(e)(1)" is revised to read "§§ 173.21, 173.51, 173.56(d), 173.56(e)(1), 173.124(a)(2)(iii) or 173.128(c)"; and the wording "hazard class and identification number," is revised to read "hazard class, identification number, and packing group,".

b. In paragraph (c)(12)(iii), the last sentence is removed.

11. In § 172.101, the Hazardous Materials Table is revised to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

BILLING CODE 4910-60-P

§172.101 HAZARDOUS MATERIALS TABLE

(1) Sym-bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other slow- age provi- sions (10B)
D	Accelleram, see p-Nitrosodimethylaniline												
	Accumulators, electric, see Batteries, wet, etc.												
	Accumulators, pressurized, pneumatic or hydraulic (containing non-flammable gas)	2.2	NA1956 UN1088 UN1089	II	NONFLAMMABLE GAS FLAMMABLE LIQUID FLAMMABLE LIQUID	T7 A3, B16, T20, T26, T29	306 150 None	202 201	None 243	No limit 60 L 30 L	No limit 60 L 30 L	A E E	
A	Acetal	3	UN1089	I	FLAMMABLE LIQUID								
	Acetaldehyde	9	UN1841	III	CLASS 9 FLAMMABLE LIQUID	B1, T8	155 150	204 203	240 242	200 kg 60 L	200 kg 220 L	A A	34
	Acetaldehyde ammonia	3	UN2332	III	CORROSIVE, FLAM- MABLE LIQUID	A3, A6, A7, A10 B2, T8	154	202	243	1 L	30 L	A	
	Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass	8	UN2788	II	CORROSIVE								
	Acetic acid solution, with more than 10 percent but not more than 80 per- cent acid, by mass	8	UN2790	II	CORROSIVE	A3, A6, A7, A10 B2, T8	154	202	242	1 L	30 L	A	
	Acetic anhydride	8	UN1715	II	CORROSIVE, FLAM- MABLE LIQUID	A3, A6, A7, A10, B2, T8	154	202	243	1 L	30 L	A	40
	Acetone	3	UN1090	II	FLAMMABLE LIQUID								
	Acetone cyanohydrin, stabilized	6.1	UN1541	I	POISON	2, A3, B9, B14, B32, B76, B77, N34, T38, T43, T45	None	227	244	Forbidden	30 L	B D	25, 40, 49
	Acetone oils	3	UN1091	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	40
	Acetonitrile	3	UN1648	II	FLAMMABLE LIQUID	T14	150	202	242	1 L	60 L	B	40
Acetyl acetone peroxide with more than 9 percent by mass active oxygen	Forbidden												
Acetyl benzoyl peroxide, solid, or with more than 40 percent in solution	8	UN1716	II	CORROSIVE	B2, T12, T26	154	202	242	1 L	30 L	C	40	
Acetyl bromide	3	UN1717	II	FLAMMABLE LIQUID, CORROSIVE	A3, A6, A7, B100, N34, T18, T26	None	202	243	1 L	5 L	B	40	
Acetyl chloride	3	UN1091	II	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B	40	
Acetyl cyclohexanesulfonyl peroxide, with more than 82 percent wetted with less than 12 percent water	Forbidden												
Acetyl iodide	3	UN1898	III	CORROSIVE	B2, B101, T9	154	202	242	1 L	30 L	C	40	
Acetyl methyl carbonyl	8	UN2621	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40	
Acetyl peroxide, solid, or with more than 25 percent in solution	Forbidden												
Acetylene, dissolved	2.1	UN1001	I	FLAMMABLE GAS									
Acetylene (liquefied)	2.1	UN1001	I	FLAMMABLE GAS									
Acetylene silver nitrate	Forbidden												
Acetylene tetrabromide, see Tetrabromoethane	Forbidden												
Acid butyl phosphate, see Butyl acid phosphate	Forbidden												
Acid, sludge, see Sludge acid	6.1	UN2713	III	KEEP AWAY FROM FOOD	B1, T1 B9, B12, B14, B30, B42, B72, B77, T38, T43, T44	153	213	240	100 kg	200 kg	A	12	
Acridine	6.1	UN2713	III	KEEP AWAY FROM FOOD	T8	153	213	240	100 kg	200 kg	A	12	
Acroin dimer, stabilized	3	UN2607	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40	
Acroin, inhibited	6.1	UN1092	I	POISON, FLAMMABLE LIQUID	B1, B52, T7, T30	None	226	244	Forbidden	Forbidden	D	40	
Acrylamide	6.1	UN2074	III	KEEP AWAY FROM FOOD	T8	153	213	240	100 kg	200 kg	A	12	
Acrylic acid, inhibited	8	UN2218	II	CORROSIVE, FLAM- MABLE LIQUID	B2, T8	154	202	243	1 L	30 L	C	25, 40	
Acrylonitrile, inhibited	3	UN1093	I	FLAMMABLE LIQUID, POISON	B9, T18, T26	None	201	243	Forbidden	30 L	E	40	
Actuating cartridge, explosive, see Cartridges, power device													
Adhesives, containing a flammable liquid	3	UN1133	III	FLAMMABLE LIQUID	B52, T7, T30	150	173	242	5 L	60 L	B		
Adiponitrile	6.1	UN2205	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A		
Aerosols, corrosive, Packing Group II or III, (each not exceeding 1 L ca- pacity)	2.2	UN1950	I	NONFLAMMABLE GAS, CORROSIVE	A34	306	None	None	75 kg	150 kg	A	40, 48, 85	
Aerosols, flammable, (each not exceeding 1 L capacity)	2.1	UN1950	I	FLAMMABLE GAS	NB2	306	None	None	75 kg	150 kg	A	40, 48, 85	
Aerosols, non-flammable, (each not exceeding 1 L capacity)	2.2	UN1950	I	NONFLAMMABLE GAS		306, 307	None	None	75 kg	150 kg	A	48, 85	

UN3140	6.1	Alkaloids, liquid, n.o.s., or Alkaloid salts, liquid, n.o.s.	I POISON II POISON III KEEP AWAY FROM FOOD.	A4, T42 T14 T7	None None 153	201 202 203	243 243 241	1 L 5 L 60 L	30 L 60 L 220 L	A A A
UN1544	6.1	Alkaloids, solid, n.o.s. or Alkaloid salts, solid, n.o.s. poisonous	I POISON II POISON III KEEP AWAY FROM FOOD.		None None 163	211 212 213	242 242 240	5 kg 25 kg 100 kg 200 kg	50 kg 100 kg 200 kg	A A A
UN2584	8	Alkyl sulfonic acids, liquid or Aryl sulfonic acids, liquid with more than 5 percent free sulfonic acid	II CORROSIVE	B2, T8, T27	154	202	242	1 L	30 L	B
UN2586	8	Alkyl sulfonic acids, liquid or Aryl sulfonic acids, liquid with not more than 5 percent free sulfonic acid	III CORROSIVE	T8	154	203	241	5 L	60 L	B
UN2583	8	Alkyl sulfonic acids, solid, with more than 5 percent free sulfonic acid	II CORROSIVE		154	212	240	15 kg	50 kg	A
UN2585	8	Alkyl sulfonic acids, solid or Aryl sulfonic acids, solid with not more than 5 percent free sulfonic acid	III CORROSIVE	T8	154	203	240	25 kg	100 kg	A
UN3145	8	Alkylphenols, liquid, n.o.s. (including C2-C12 homologues)	I CORROSIVE II CORROSIVE III CORROSIVE	T8 T7 T8	154 154 154	202 203 203	241 241 241	0.5 L 1 L 5 L	2.5 L 30 L 60 L	B B A
UN2430	8	Alkylphenols, solid, n.o.s. (including C2-C12 homologues)	I CORROSIVE II CORROSIVE III CORROSIVE	T8 T8 T8	None 154 154	211 212 213	242 240 240	1 kg 15 kg 50 kg	25 kg 100 kg 30 L	B B A
UN2571	8	Alkylsulfonic acids	II CORROSIVE	B2, T9, T27	154	202	242	1 L	30 L	C
UN2333	3	Allyl acetate	II FLAMMABLE LIQUID.	T8	None	202	243	1 L	60 L	E
UN1098	6.1	Allyl alcohol	I POISON. II POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D
UN1099	3	Allyl bromide	I FLAMMABLE LIQUID.	T18	None	201	243	Forbidden	30 L	B
UN1100	3	Allyl chloride	I FLAMMABLE LIQUID. II POISON.	T18, T26	None	201	243	Forbidden	30 L	E
UN1722	6.1	Allyl chloroacetate, see Allyl chloroformate	I POISON, FLAMMABLE LIQUID, CORROSIVE.	2, A3, B9, B14, B32, B74, N41, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D
UN2335	3	Allyl ethyl ether	II FLAMMABLE LIQUID.	T8	None	202	243	1 L	60 L	E
UN2336	3	Allyl formate	I POISON.	T18, T26	None	201	243	Forbidden	30 L	E
UN2219	3	Allyl glycidyl ether	III FLAMMABLE LIQUID	B1, T7	150	203	242	60 L	220 L	A
UN1723	3	Allyl iodide	II FLAMMABLE LIQUID.	A3, A6, B100, N34, T18.	None	202	243	1 L	5 L	B
UN1545	6.1	Allyl isothiocyanate, stabilized	II CORROSIVE	A3, A7	None	202	243	Forbidden	60 L	D
UN2334	6.1	Allylamine	I POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D
UN1724	8	Allylchlorosilane, stabilized	II CORROSIVE, FLAMMABLE LIQUID.	A7, B2, B6, N34, T8, T26.	None	202	243	Forbidden	30 L	C
UN3052	4.2	Aluminum alkyl halides	I SPONTANEOUSLY COMBUSTIBLE.	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D
UN3076	4.2	Aluminum alkyl hydrides	I SPONTANEOUSLY COMBUSTIBLE.	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D
UN3051	4.2	Aluminum alkyls	I SPONTANEOUSLY COMBUSTIBLE.	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D
UN2670	4.2	Aluminum borohydride or Aluminum borohydride in devices	I SPONTANEOUSLY COMBUSTIBLE, DANGEROUS WHEN WET.	B11	None	181	244	Forbidden	Forbidden	D
UN1725	8	Aluminum bromide, anhydrous	II CORROSIVE	B108	154	212	240	15 kg	50 kg	A
UN2680	8	Aluminum bromide, solution	III CORROSIVE	T8	None	203	241	5 L	60 L	A
UN1394	4.3	Aluminum carbide	I DANGEROUS WHEN WET.	A20, B101, B106, N41.	None	212	242	15 kg	50 kg	A
UN1726	8	Aluminum chloride, anhydrous	II CORROSIVE	B106	154	212	240	15 kg	50 kg	A
UN2581	8	Aluminum chloride, solution	III CORROSIVE	T8	154	203	241	5 L	60 L	A
UN2582	Forbidden	Aluminum dross, wet or hot	III CORROSIVE		None	212	242	15 kg	50 kg	A
UN1395	4.3	Aluminum ferrosilicon powder	II DANGEROUS WHEN WET, POISON.	A19, B108	None	212	242	15 kg	50 kg	A
UN2463	4.3	Aluminum hydride	III DANGEROUS WHEN WET, KEEP AWAY FROM FOOD.	A19, A20	None	213	241	25 kg	100 kg	A
NA9260	9	Aluminum nitrate	I DANGEROUS WHEN WET	A19, B100, N40	None	211	242	Forbidden	15 kg	E
UN1438	5.1	Aluminum nitrate	III CLASS 9 OXIDIZER	A1, A29	None	None	247	Forbidden	Forbidden	D
					152	213	240	25 kg	100 kg	A

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§ 173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft only	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
	Aluminum phosphate solution, see Corrosive liquids, etc.	4.3	UN1397	I	DANGEROUS WHEN WET, POISON.	AB, A19, B100, N40.	None	211	242	Forbidden	15 kg	E	40, 85
	Aluminum phosphide	6.1	UN3048	I	POISON	A8	None	211	242	Forbidden	15 kg	E	40, 85
	Aluminum phosphide pesticides	4.1	UN1309	II	FLAMMABLE SOLID		151	212	240	15 kg	50 kg	A	13, 39, 101
	Aluminum powder, coated	4.3	UN1396	III	FLAMMABLE SOLID	A19, A20, B108	None	212	240	25 kg	100 kg	A	13, 39, 101
	Aluminum powder, uncoated	4.3	UN1396	III	DANGEROUS WHEN WET.		None	212	242	15 kg	50 kg	A	39
	Aluminum processing by-products	4.3	UN3170	III	DANGEROUS WHEN WET.	A19, A20	None	213	241	25 kg	100 kg	A	39
	Aluminum resinates	4.1	UN2715	III	DANGEROUS WHEN WET.		None	212	242	15 kg	50 kg	B	85, 103
	Aluminum silicon powder, uncoated	4.3	UN1398	III	DANGEROUS WHEN WET.	A1, A19	None	213	241	25 kg	100 kg	A	85, 103
	Amaloids, see Explosives, blasting, type B												
	Amines, flammable, corrosive, n.o.s. or Polyamines, flammable, corrosive, n.o.s.	3	UN2733	I	FLAMMABLE LIQUID, CORROSIVE.	T42	None	201	243	0.5 L	2.5 L	D	40
	Amines, liquid, corrosive, flammable, n.o.s. or Polyamines, liquid, corro- sive, flammable, n.o.s.	8	UN2734	II	FLAMMABLE LIQUID, CORROSIVE.	T8, T31	None	202	243	1 L	5 L	B	40
	Amines, liquid, corrosive, n.o.s. or Polyamines, liquid, corrosive, n.o.s.	8	UN2735	I	FLAMMABLE LIQUID, CORROSIVE.	B1, T8, T31	150	203	242	5 L	60 L	A	40
	Amines, solid, corrosive, n.o.s. or Polyamines, solid, corrosive n.o.s.	8	UN2559	II	CORROSIVE, FLAM- MABLE LIQUID.	A3, A6, N34, T8, T31.	None	201	243	0.5 L	2.5 L	A	
	2-Amino-4-chlorophenol	6.1	UN2673	III	CORROSIVE, FLAM- MABLE LIQUID.	T8, T31	None	202	243	1 L	30 L	A	
	2-Amino-5-diethylaminopentane	6.1	UN2946	III	CORROSIVE	A3, A6, B10, N34, T42.	None	201	243	0.5 L	2.5 L	A	
	2-(2-Aminoethoxy) ethanol	8	UN3055	III	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
	N-Aminoethylpiperazine	8	UN2815	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	
	Amorphous (o-, m-, p-)	6.1	UN2512	III	CORROSIVE		None	211	242	1 kg	25 kg	A	
	Aminopyridines (o-, m-, p-)	6.1	UN2671	III	CORROSIVE		154	212	240	15 kg	50 kg	A	
	Aminopyridines (o-, m-, p-), relative density less than 0.860 at 15 degrees C in water, with more than 50 percent ammonia	2.3	UN1005	III	POISON		154	213	240	25 kg	100 kg	A	
	Aminopyridines (o-, m-, p-), relative density less than 0.860 at 15 degrees C in water, with more than 50 percent ammonia	2.2	UN1005	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	Ammonia, anhydrous, liquefied or Ammonia solutions, relative density less than 0.860 at 15 degrees C in water, with more than 50 percent ammonia	2.2	UN1005	III	KEEP AWAY FROM FOOD.	T2	154	203	241	5 L	60 L	A	
	Ammonia, anhydrous, liquefied or Ammonia solutions, relative density less than 0.860 at 15 degrees C in water, with more than 50 percent ammonia	2.2	UN1005	III	KEEP AWAY FROM FOOD.	T7	154	203	241	5 L	60 L	A	12
	Ammonia solutions, relative density between 0.860 and 0.957 at 15 de- grees C in water, with more than 10 percent but not more than 35 percent ammonia	8	UN2672	III	POISON	T7	None	212	242	25 kg	100 kg	B	12, 40
	Ammonia solutions, relative density less than 0.860 at 15 degrees C in water, with more than 35 percent but not more than 50 percent ammonia	2.2	UN2073	III	POISON GAS, CORRO- SIVE.	4	None	304	314, 315	Forbidden	25 kg	D	40, 57
	Ammonium arsenate	Forbidden	UN1546	II	NONFLAMMABLE GAS	13	None	304	314, 315	Forbidden	25 kg	D	40, 57
	Ammonium azide	Forbidden	UN1546	II	NONFLAMMABLE GAS	13	None	304	314, 315	Forbidden	25 kg	D	40, 57
	Ammonium bifluoride, solid, see Ammonium hydrogen difluoride, solid	Forbidden	UN1546	II	NONFLAMMABLE GAS	13	None	304	314, 315	Forbidden	25 kg	D	40, 57

UN Number	Proper Shipping Name	Quantity	Labeling	Special Provisions	HAZARDOUS MATERIALS TABLE	Section	Quantity	Labeling	Special Provisions	HAZARDOUS MATERIALS TABLE	
UN1439	Ammonium fluoride	Forbidden	6.1	OXIDIZER	II	212	242	5 kg	Forbidden	A	36, 65, 66, 77
UN1843	Ammonium fluoride	Forbidden	6.1	POISON	II	None	242	25 kg	Forbidden	B	26
UN2505	Ammonium fluoride	6.1	6.1	KEEP AWAY FROM FOOD	III	153	240	100 kg	200 kg	A	26
UN2854	Ammonium fluoride	6.1	6.1	KEEP AWAY FROM FOOD	III	153	240	100 kg	200 kg	A	26
UN2506	Ammonium fulminate	Forbidden	8	CORROSIVE	II	154	240	15 kg	50 kg	A	40
UN1727	Ammonium hydrogen sulfate	8	8	CORROSIVE	II	154	240	15 kg	50 kg	A	25, 26, 40
UN2817	Ammonium hydrogendifluoride solid	8	8	CORROSIVE POISON	II	None	243	1 L	30 L	B	40
	Ammonium hydrogendifluoride, solution			CORROSIVE, KEEP AWAY FROM FOOD	III	154	203	241	60 L	B	40, 95
	Ammonium hydrosulfide, solution										
	Ammonium hydroxide, solution										
	Ammonium hydroxide, see Ammonium sulfide solution										
	Ammonium metavanadate	5.1	5.1	POISON	II	None	242	25 kg	100 kg	A	48, 59, 60, 117
	Ammonium nitrate fertilizers	5.1	5.1	OXIDIZER	III	152	240	25 kg	100 kg	B	
	Ammonium nitrate fertilizers, uniform non-segregating mixtures of ammonium nitrate with added matter which is inorganic and chemically inert towards ammonium nitrate, with not less than 90 percent ammonium nitrate and not more than 0.2 percent combustible material (including organic material calculated as carbon), or with more than 70 percent but less than 90 percent ammonium nitrate and not more than 0.4 percent total combustible material										
	Ammonium nitrate fertilizers, uniform non-segregating mixtures of nitrogen phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, with not more than 70 percent ammonium nitrate and not more than 0.4 percent total added combustible material or with not more than 45 percent ammonium nitrate with unrestricted combustible material										
	Ammonium nitrate-fuel oil mixture containing only prilled ammonium nitrate and fuel oil										
	Ammonium nitrate, liquid (not concentrated solution)	1.5D	5.1	CLASS 9	III	155	240	200 kg	200 kg	A	
	Ammonium nitrate mixed fertilizers	5.1	5.1	EXPLOSIVE 1.5D	II	None	None	Forbidden	Forbidden	B	1E, 5E
	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			OXIDIZER	III	None	243	Forbidden	Forbidden	D	59, 60
	Ammonium nitrate, with not more than 0.2 percent of combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance			OXIDIZER	III	152	240	25 kg	100 kg	B	48, 59, 60, 117
	Ammonium nitrate, with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance			EXPLOSIVE 1.1D	II	None	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Ammonium nitrate	1.1D	5.1	OXIDIZER	III	152	240	25 kg	100 kg	A	48, 59, 60, 116
	Ammonium perchlorate	Forbidden	1.1D	EXPLOSIVE 1.1D	II	None	None	Forbidden	Forbidden	B	1E, 5E, 19E
	Ammonium perchlorate	Forbidden	5.1	OXIDIZER	III	152	242	5 kg	25 kg	E	58, 69, 106
	Ammonium permanganate	Forbidden	5.1	OXIDIZER	III	152	240	25 kg	100 kg	A	1E, 5E, 19E
	Ammonium persulfate	1.1D	4.1	EXPLOSIVE 1.1D	II	None	None	Forbidden	Forbidden	D	28, 36
	Ammonium picrate, dry or wetted with less than 10 percent water, by mass			FLAMMABLE SOLID	III	None	None	0.5 kg	0.5 kg	B	12, 26, 40
	Ammonium picrate, wetted with not less than 10 percent water, by mass			CORROSIVE POISON	II	None	243	1 L	30 L	B	12, 26, 40
	Ammonium polysulfide, solution			CORROSIVE, KEEP AWAY FROM FOOD	III	154	241	5 L	60 L	B	12, 26, 40
	Ammonium polyvanadate	6.1	6.1	POISON	II	None	242	25 kg	100 kg	A	
	Ammonium silicofluoride, see Ammonium fluorosulfate										
	Ammonium sulfide solution	8	8	CORROSIVE POISON, FLAMMABLE LIQUID	II	None	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	EXPLOSIVE 1.2G	II	62	None	Forbidden	Forbidden	B	
	Ammunition, illuminating with or without burster, expelling charge or propelling charge	1.3G	UN0284	EXPLOSIVE 1.3G	II	62	None	Forbidden	Forbidden	B	
	Ammunition, illuminating with or without burster, expelling charge or propelling charge	1.4G	UN0297	EXPLOSIVE 1.4G	II	62	None	Forbidden	75 kg	A	24E
	Ammunition, incendiary liquid or gel, with burster, expelling charge or propelling charge	1.3J	UN0247	EXPLOSIVE 1.3J	II	62	None	Forbidden	Forbidden	E	7E, 13E, 23E
	Ammunition, incendiary (water-activated contrivances) with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc.										

Ammonium bifluoride solution, see Ammonium hydrogen difluoride, solution

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§ 173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or raicair	(9B) Cargo air- craft only	(10A) Vessel stow- age provi- sions
(1)	Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge	1.2H	UN0243	II	EXPLOSIVE 1.2H	(7)	62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge	1.3H	UN0244	II	EXPLOSIVE 1.3H		62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, incendiary with or without burster, expelling charge, or propelling charge	1.2G	UN0009	II	EXPLOSIVE 1.2G		62	None	Forbidden	Forbidden	B	
	Ammunition, incendiary with or without burster, expelling charge, or propelling charge	1.3G	UN0010	II	EXPLOSIVE 1.3G		62	None	Forbidden	Forbidden	B	
	Ammunition, practice	1.4G	UN0300	II	EXPLOSIVE 1.4G		62	None	Forbidden	75 kg	A	24E
	Ammunition, practice	1.4G	UN0362	II	EXPLOSIVE 1.4G		62	None	Forbidden	75 kg	A	24E
	Ammunition, practice	1.3G	UN0488	II	EXPLOSIVE 1.3G		62	None	Forbidden	75 kg	B	
	Ammunition, practice	1.4G	UN0363	II	EXPLOSIVE 1.4G		62	None	Forbidden	75 kg	A	24E
	Ammunition, rocket, see Warheads, rocket, etc.											
	Ammunition, SA (small arms), see Cartridges for weapons, etc.											
	Ammunition, smoke (water-activated contrivances), while phosphorus, with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc. (UN 0248)											
	Ammunition, smoke (water-activated contrivances), without white phosphorus or phosphides, with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc. (UN 0249)											
	Ammunition, smoke, while phosphorus with burster, expelling charge, or propelling charge	1.2H	UN0245	II	EXPLOSIVE 1.2H		62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, smoke, while phosphorus with burster, expelling charge, or propelling charge	1.3H	UN0246	II	EXPLOSIVE 1.3H		62	None	Forbidden	Forbidden	E	8E, 14E, 15E, 17E
	Ammunition, smoke with or without burster, expelling charge or propelling charge	1.2G	UN0015	II	EXPLOSIVE 1.2G, COR-ROSI- POSIVE		62	None	Forbidden	Forbidden	E	17E, 20E
	Ammunition, smoke with or without burster, expelling charge or propelling charge	1.3G	UN0016	II	EXPLOSIVE 1.3G, COR-ROSI- POSIVE		62	None	Forbidden	Forbidden	E	17E, 20E
	Ammunition, smoke with or without burster, expelling charge or propelling charge	1.4G	UN0303	II	EXPLOSIVE 1.4G, COR-ROSI- POSIVE		62	None	Forbidden	75 kg	E	17E, 20E
	Ammunition, sporting, see Cartridges for weapons, etc. (UN 0012; UN 0228; UN 0339)											
	Ammunition, tear-producing, non-explosive, without burster or expelling charge, non-fuzed	6.1	UN2017	II	POISON, CORROSIVE		212	None	Forbidden	50 kg	E	13, 40
	Ammunition, tear-producing with burster, expelling charge or propelling charge	1.2G	UN0018	II	EXPLOSIVE 1.2G, COR-ROSI- POSIVE, POISON		62	None	Forbidden	Forbidden	E	20E
	Ammunition, tear-producing with burster, expelling charge or propelling charge	1.3G	UN0019	II	EXPLOSIVE 1.3G, COR-ROSI- POSIVE, POISON		62	None	Forbidden	Forbidden	E	17E, 20E
	Ammunition, tear-producing with burster, expelling charge or propelling charge	1.4G	UN0301	II	EXPLOSIVE 1.4G, COR-ROSI- POSIVE, POISON		62	None	Forbidden	75 kg	E	17E, 20E
	Ammunition, toxic, non-explosive, without burster or expelling charge, non-fuzed	6.1	UN2016	II	POISON		212	None	Forbidden	100 kg	E	13, 40
	Ammunition, toxic (water-activated contrivances), with burster, expelling charge or propelling charge, see Contrivances, water-activated, etc.	1.2K	UN0020	II	EXPLOSIVE 1.2K, POI- SON		62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Ammunition, toxic with burster, expelling charge, or propelling charge	1.3K	UN0021	II	EXPLOSIVE 1.3K, POI- SON		62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Ammonium acetates	3	UN1104	III	FLAMMABLE LIQUID	B1, T1	203	242	60 L	220 L	A	
	Ammonium phosphite	3	UN2819	III	CORROSIVE	T7	154	241	5 L	60 L	A	
	Ammonium alcohols	8	UN1105	III	FLAMMABLE LIQUID	T1	150	242	5 L	60 L	B	
				III	FLAMMABLE LIQUID	B1, B3, T1	150	242	60 L	220 L	A	

Chemical Name	UN Number	Quantity	Labeling	HAZARDOUS	PL	PG	PG-2	PG-3	PG-4	PG-5	PG-6	PG-7	PG-8	PG-9	PG-10	PG-11	PG-12	PG-13	PG-14	PG-15	PG-16	PG-17	PG-18	PG-19	PG-20	PG-21	PG-22	PG-23	PG-24	PG-25	PG-26	PG-27	PG-28	PG-29	PG-30	PG-31	PG-32	PG-33	PG-34	PG-35	PG-36	PG-37	PG-38	PG-39	PG-40	PG-41	PG-42	PG-43	PG-44	PG-45	PG-46	PG-47	PG-48	PG-49	PG-50	PG-51	PG-52	PG-53	PG-54	PG-55	PG-56	PG-57	PG-58	PG-59	PG-60	PG-61	PG-62	PG-63	PG-64	PG-65	PG-66	PG-67	PG-68	PG-69	PG-70	PG-71	PG-72	PG-73	PG-74	PG-75	PG-76	PG-77	PG-78	PG-79	PG-80	PG-81	PG-82	PG-83	PG-84	PG-85	PG-86	PG-87	PG-88	PG-89	PG-90	PG-91	PG-92	PG-93	PG-94	PG-95	PG-96	PG-97	PG-98	PG-99	PG-100
Amyl butyrate	3 UN2620	3	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	96, 102																																																																																													
Amyl chlorides	3 UN1107	150	III	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B																																																																																														
Amyl formates	3 UN1109	150	III	FLAMMABLE LIQUID	B1, T1	150	202	242	60 L	220 L	A																																																																																														
Amyl mercaptans	3 UN1111	None	III	FLAMMABLE LIQUID	A3, T8	None	202	242	5 L	60 L	B																																																																																														
Amyl methyl ketone	3 UN1110	150	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A																																																																																														
Amyl nitrate	3 UN1112	150	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40																																																																																													
Amyl nitrates	3 UN1113	150	III	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	E	40																																																																																													
Amylamines	3 UN1106	None	III	FLAMMABLE LIQUID	T1	None	202	243	1 L	5 L	B																																																																																														
		150	III	CORROSIVE, FLAMMABLE LIQUID	B1	150	203	242	5 L	60 L	A																																																																																														
n-Amylene	3 UN1108	150	III	CORROSIVE	T14	150	201	243	1 L	30 L	E	40																																																																																													
Amylthiosilane	8 UN1728	None	III	FLAMMABLE LIQUID	A7, B2, B6, N34, T8, T26	None	202	242	Forbidden	30 L	C																																																																																														
Anhydrous ammonia see Ammonia, anhydrous, liquefied																																																																																																									
Anhydrous hydrofluoric acid, see Hydrogen fluoride, anhydrous																																																																																																									
Aniline	6.1 UN1547	6.1	III	POISON	T8	None	202	243	5 L	60 L	A	40																																																																																													
Aniline hydrochloride	6.1 UN1548	6.1	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A																																																																																														
Aniline oil, see Aniline																																																																																																									
Anisidines	6.1 UN2431	6.1	III	KEEP AWAY FROM FOOD	T1	153	203	241	60 L	220 L	A																																																																																														
Anisole	3 UN2222	3	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40																																																																																													
Anisoyl chloride	8 UN1729	8	III	CORROSIVE	B2, T8	154	202	242	1 L	30 L	C																																																																																														
Anti-freeze, liquid, see Flammable liquids, n.o.s.																																																																																																									
Antimonous chloride, see Antimony trichloride																																																																																																									
Antimony compounds, inorganic, liquid, n.o.s.	6.1 UN3141	6.1	III	KEEP AWAY FROM FOOD	35, T7	153	203	241	60 L	220 L	A																																																																																														
Antimony compounds, inorganic, solid, n.o.s.	6.1 UN1549	6.1	III	KEEP AWAY FROM FOOD	35	153	213	240	100 kg	200 kg	A																																																																																														
Antimony lactate	6.1 UN1550	6.1	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A																																																																																														
Antimony pentachloride, liquid	8 UN1730	8	III	CORROSIVE	B2, T8, T26	None	202	242	1 L	30 L	C	40																																																																																													
Antimony pentachloride, solutions	8 UN1731	8	III	CORROSIVE	B2, T8, T27	154	202	242	1 L	30 L	C	40																																																																																													
Antimony pentaffluoride	8 UN1732	8	III	CORROSIVE, POISON	T7, T26	154	203	241	5 L	60 L	C	40																																																																																													
					A3, A6, A7, A10, N3, T12, T26	None	202	243	Forbidden	30 L	D	40																																																																																													
Antimony potassium tartrate	6.1 UN1551	6.1	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A																																																																																														
Antimony powder	6.1 UN2871	6.1	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A																																																																																														
Antimony sulfide and a chlorate, mixtures of	Forbidden																																																																																																								
Antimony tribromide, solid	8 NA1549	8	II	CORROSIVE		154	212	240	25 kg	100 kg	A	13																																																																																													
Antimony tribromide, solution	8 NA1549	8	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	13																																																																																													
Antimony trichloride, liquid	8 UN1733	8	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	13																																																																																													
Antimony trichloride, solid	8 UN1733	8	II	CORROSIVE	B106	154	212	240	15 kg	50 kg	A	40																																																																																													
Antimony trifluoride, solid	8 NA1549	8	II	CORROSIVE	B2	154	212	240	25 kg	25 kg	A	13																																																																																													
Antimony trifluoride solution	8 NA1549	8	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	13																																																																																													
Aqua ammonia, see Ammonia solution, etc.																																																																																																									
Argon, compressed	2.2 UN1006	2.2		NONFLAMMABLE GAS		306	302	314,	75 kg	150 kg	A																																																																																														
Argon, refrigerated liquid (cryogenic liquid)	2.2 UN1951	2.2		NONFLAMMABLE GAS		306	302	315	75 kg	150 kg	A																																																																																														
Arsenic	6.1 UN1558	6.1	II	POISON		300	316	318	50 kg	500 kg	B	40																																																																																													
Arsenic acid, liquid	6.1 UN1553	6.1	II	POISON	T18, T27	None	212	242	25 kg	100 kg	A	46																																																																																													
Arsenic acid, solid	6.1 UN1554	6.1	II	POISON		None	201	243	1 L	30 L	B																																																																																														
Arsenic bromide	6.1 UN1555	6.1	II	POISON		None	212	242	25 kg	100 kg	A																																																																																														
Arsenic chloride, see Arsenic trichloride																																																																																																									
Arsenic compounds, liquid, n.o.s. including arsenates n.o.s., arsenites, n.o.s., arsenic sulfides, n.o.s., and organic compounds of arsenic, n.o.s.	6.1 UN1556	6.1	I	POISON		None	201	243	1 L	30 L	B	40																																																																																													
						None	202	243	5 L	60 L	B	40																																																																																													
						153	203	241	60 L	220 L	B	40																																																																																													
Arsenic compounds, solid, n.o.s. including arsenates, n.o.s., arsenites, n.o.s., arsenic sulfides, n.o.s., and organic compounds of arsenic, n.o.s.	6.1 UN1557	6.1	I	POISON		None	211	242	5 kg	50 kg	A																																																																																														
						None	212	242	25 kg	100 kg	A																																																																																														
						153	213	240	100 kg	200 kg	A																																																																																														
Arsenic pentoxide	6.1 UN1559	6.1	II	POISON		None	212	242	25 kg	100 kg	A																																																																																														
Arsenic sulfide	6.1 NA1557	6.1	II	POISON		None	212	242	25 kg	100 kg	A																																																																																														
Arsenic sulfide and a chlorate, mixtures of	Forbidden																																																																																																								
Arsenic trichloride	5.1 UN1560	5.1	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	40																																																																																													
Arsenic trioxide	6.1 UN1561	6.1	II	POISON		None	212	242	25 kg	100 kg	A																																																																																														

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bol	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	Special provisions	(8) Packaging requirements (§173.24)		(9) Quantity limitations		(10) Vessel storage re- quirements			
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Passenger aircraft or raifair (9A)	Cargo air- craft only (9B)	Vessel stor- age (10A)	Other stor- age provi- sions (10B)		
D	Arsenic trisulfide	6.1	NA1557	II	POISON		None	212	242	25 kg	100 kg	A		
	Arsenic, white, solid, see Arsenic trioxide													
	Arsenical dust	6.1	UN1562	II	POISON		None	212	242	25 kg	100 kg	A		
	Arsenical pesticides, liquid, flammable, toxic, flash point less than 23 de- grees C	3	UN2760	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	Forbidden	B	40
							None	202	243	1 L	60 L	Forbidden	B	40
	Arsenical pesticides, liquid, toxic	6.1	UN2994	III	POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	Forbidden	B	40
							None	201	243	1 L	30 L	Forbidden	B	40
							None	202	243	5 L	60 L	Forbidden	B	40
							None	203	241	60 L	220 L	Forbidden	A	40
	Arsenical pesticides, liquid, toxic, flammable flashpoint not less than 23 de- grees C	6.1	UN2993	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	Forbidden	B	40
							None	202	243	5 L	60 L	Forbidden	B	40
							None	203	241	60 L	220 L	Forbidden	A	40
	Arsenical pesticides, solid, toxic	6.1	UN2799	III	POISON, KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	153	203	242	60 L	220 L	Forbidden	A	40
							None	211	242	5 kg	50 kg	Forbidden	A	40
							None	212	242	25 kg	100 kg	Forbidden	A	40
						None	213	240	100 kg	200 kg	Forbidden	A	40	
Arsenious acid, solid, see Arsenic trioxide														
Arsenious and mercuric iodide solution, see Arsenic compounds, liquid, n.o.s.														
Arsine	2.3	UN2188			POISON GAS; FLAM- MABLE GAS	1	None	192	Forbidden	Forbidden	Forbidden	D	40	
Articles, explosive, extremely insensitive or Articles, EEI	1.6N	UN0486	II	EXPLOSIVE 1.6N	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.4S	UN0349	II	EXPLOSIVE 1.4S	101		None	62	None	25 kg	100 kg	B		
Articles, explosive, n.o.s.	1.4B	UN0350	II	EXPLOSIVE 1.4B	101		None	62	None	Forbidden	Forbidden	A	24E	
Articles, explosive, n.o.s.	1.4C	UN0351	II	EXPLOSIVE 1.4C	101		None	62	None	Forbidden	Forbidden	A	24E	
Articles, explosive, n.o.s.	1.4D	UN0352	II	EXPLOSIVE 1.4D	101		None	62	None	Forbidden	Forbidden	A	24E	
Articles, explosive, n.o.s.	1.4G	UN0353	II	EXPLOSIVE 1.4G	101		None	62	None	Forbidden	Forbidden	A	24E	
Articles, explosive, n.o.s.	1.1L	UN0354	II	EXPLOSIVE 1.1L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E	
Articles, explosive, n.o.s.	1.2L	UN0355	II	EXPLOSIVE 1.2L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E	
Articles, explosive, n.o.s.	1.3L	UN0356	II	EXPLOSIVE 1.3L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E	
Articles, explosive, n.o.s.	1.1C	UN0462	II	EXPLOSIVE 1.1C	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.1D	UN0463	II	EXPLOSIVE 1.1D	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.1E	UN0464	II	EXPLOSIVE 1.1E	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.1F	UN0465	II	EXPLOSIVE 1.1F	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.2C	UN0466	II	EXPLOSIVE 1.2C	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.2D	UN0467	II	EXPLOSIVE 1.2D	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.2E	UN0468	II	EXPLOSIVE 1.2E	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.2F	UN0469	II	EXPLOSIVE 1.2F	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.3C	UN0470	II	EXPLOSIVE 1.3C	101		None	62	None	Forbidden	Forbidden	B		
Articles, explosive, n.o.s.	1.4E	UN0471	II	EXPLOSIVE 1.4E	101		None	62	None	Forbidden	75 kg	Forbidden	B	24E
Articles, explosive, n.o.s.	1.4F	UN0472	II	EXPLOSIVE 1.4F	101		None	62	None	Forbidden	Forbidden	A		
Articles, pressurized pneumatic or Hydraulic containing non-flammable gas	2.2	UN3164	III	NONFLAMMABLE GAS	101		None	306	None	None	None	Forbidden	A	
Articles, pyrophoric	1.2L	UN0380	II	EXPLOSIVE 1.2L	101		None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E	
Articles, pyrotechnic for technical purposes	1.1G	UN0428	II	EXPLOSIVE 1.1G	101		None	62	None	Forbidden	Forbidden	B		
Articles, pyrotechnic for technical purposes	1.2G	UN0429	II	EXPLOSIVE 1.2G	101		None	62	None	Forbidden	Forbidden	B		
Articles, pyrotechnic for technical purposes	1.3G	UN0430	II	EXPLOSIVE 1.3G	101		None	62	None	Forbidden	Forbidden	B		
Articles, pyrotechnic for technical purposes	1.4G	UN0431	II	EXPLOSIVE 1.4G	101		None	62	None	Forbidden	75 kg	Forbidden	A	24E

UN Number	Proper Shipping Name	Class	Label	Quantity	Special Provisions	Other	Section	Notes
UN0432	Articles, pyrotechnic for technical purposes	1.4S	EXPLOSIVE 1.4S CLASS 9	None	62	None	II	
NA2212	Asbestos	9	FLAMMABLE LIQUID	100 kg	216	None	III	
NA1999	Asphalt, at or above its flashpoint	3	FLAMMABLE LIQUID	200 kg	203	None	III	
	Asphalt, cut back, see Tars, liquid, etc.			Forbidden				
	Automobile, motorcycle, tractor, or other self-propelled vehicle, engine, or other mechanical apparatus, see Engines or Battery etc.			Forbidden				
	Azurotic acid (salt oil) (dry)	Forbidden						
	5-Azido-1-hydroxy tetrazole	Forbidden						
	Azido hydroxy tetrazole (mercury and silver salts)	Forbidden						
	3-Azido-1,2-Propylene glycol dinitrate	Forbidden						
	Azidothiocarbonyl acid	Forbidden						
	Azobethyl nitrate	Forbidden						
	1-Azobis(diphenylphosphine oxide) (fns), see Tri-(1-aziridinyl) phosphine oxide, solution							
	Azotriazole (dry)	Forbidden						
	Banum	4.3	DANGEROUS WHEN WET	50 kg	212	None	II	A19, B100
	Banum alloys, pyrophoric	4.2	SPONTANEOUSLY COMBUSTIBLE	Forbidden	181	None	I	
	Barium azide, dry or wetted with less than 50 percent water, by mass	1.1A	EXPLOSIVE 1.1A, POISON	None	62	None	II	111, 117
	Barium azide, wetted with not less than 50 percent water, by mass	4.1	FLAMMABLE SOLID, POISON	0.5 kg	182	None	I	A2
	Barium bromate	5.1	OXIDIZER, POISON	25 kg	212	None	II	A9, N34, T8
	Barium chlorate	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium nitrate	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium nitrate, n.o.s.	6.1	POISON	100 kg	212	None	III	
	Barium oxide	6.1	KEEP AWAY FROM FOOD	200 kg	213	None	III	
	Barium cyanide	6.1	POISON	242	212	None	I	N74, N75
	Barium hypochlorite with more than 25 percent available chlorine	5.1	OXIDIZER, POISON	50 kg	212	None	II	A7, A9, N34
	Barium nitrate	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium nitrate	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium perchlorate	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium permanganate	5.1	OXIDIZER, POISON	25 kg	212	None	II	T8
	Barium peroxide	5.1	OXIDIZER, POISON	25 kg	212	None	II	
	Barium selenate, see Selenates or Selenites							
	Barium selenite, see Selenates or Selenites							
	Barium sulphate	1.1A	EXPLOSIVE 1.1A	None	62	None	II	111, 117
	Batteries, containing sodium	4.3	DANGEROUS WHEN WET	Forbidden	189	None	II	
	Batteries, dry, containing potassium hydroxide solid, electric, storage	8	CORROSIVE	230 kg gross	213	None	III	
	Batteries, wet, filled with acid, electric storage	8	CORROSIVE	159	189	None	III	
	Batteries, wet, filled with alkali, electric storage	8	CORROSIVE	25 kg gross	159	159	III	
	Batteries, wet, non-spillable, electric storage	8	CORROSIVE	25 kg gross	159	159	III	
	Battery, dry, not subject to the requirements of this subchapter	8	CORROSIVE	No Limit	159	159	III	
	Battery fluid, acid	8	CORROSIVE	30 L	202	154	II	A3, A7, B2, B15, N6, N34, T9, T27
	Battery fluid, alkali	8	CORROSIVE	30 L	202	154	II	B2, N6, T8
	Battery lithium type, see Lithium batteries etc.							
	Battery-powered vehicle or Battery-powered equipment wet battery	9	CLASS 9	No limit	220	220	II	
	Battery, wet, filled with acid or alkali with automobile (or named self-propelled vehicle or mechanical equipment containing internal combustion engine) see Vehicles, self-propelled etc.							
	Benzaldehyde	3	FLAMMABLE LIQUID	220 L	203	155	III	B101, T8
	Benzene	3	FLAMMABLE LIQUID	60 L	202	150	III	
	Benzene diazonium chloride (dry)	Forbidden						
	Benzene diazonium nitrate (dry)	Forbidden						
	Benzene phosphorus dichloride	3	CORROSIVE	60 L	203	154	III	
	Benzene phosphorus trichloride, see Phenyl phosphorus trichloride							
	Benzene sulfonyl chloride	3	CORROSIVE	60 L	203	154	III	
	Benzene triazone	3	CORROSIVE	60 L	203	154	III	
	Benzenethiol, see Phenyl mercaptan							
	Benzenidine	6.1	POISON	100 kg	212	None	II	
	Benzoic derivative pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	FLAMMABLE LIQUID, POISON	30 L	201	None	I	
				Forbidden	243	243	II	
				60 L	202	None	III	
				220 L	203	150	III	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bol	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements		
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railer (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)	
	Benzoic derivative pesticides, liquid, toxic	6.1	UN3004	I II III	POISON POISON KEEP AWAY FROM FOOD.	T42 T14 T14	None None 153	201 202 203	243 243 241	1 L 5 L 60 L	30 L 60 L 220 L	B B A	40 40 40	
	Benzoic derivative pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1	UN3003	I II	POISON, FLAMMABLE LIQUID, LIQUID, LIQUID, LIQUID, KEEP AWAY FROM FOOD, FLAMMABLE LIQUID, LIQUID.	T42 T14	None None	201 202	243 243	1 L 5 L	30 L 60 L	B B	40 40	
	Benzoic derivative pesticides, solid toxic	6.1	UN2769	I II III	POISON POISON KEEP AWAY FROM FOOD.	T42 T14 T14	None None 153	211 212 213	242 242 240	5 kg 25 kg 100 kg	50 kg 100 kg 200 kg	A A A	40 40 40	
	Benzyl, see Benzene													
	Benzonitrile	6.1	UN2224	II	POISON	T14	None	202	243	5 L	60 L	A	26, 40	
	Benzoquinone	6.1	UN2587	II	POISON	T14	None	212	242	25 kg	100 kg	A	40	
	Benzotrifluoride	8	UN2226	II	CORROSIVE	B2, B101, T15	None	202	242	1 L	30 L	A	40	
	Benzotriazole (dry)	3	UN3338	II	FLAMMABLE LIQUID	T2	None	202	242	5 L	60 L	B	40	
	Benzoyl azide	Forbidden												
	Benzoyl chloride	8	UN1736	II	CORROSIVE	B2, T9, T26	None	202	242	1 L	30 L	C	40	
	Benzoyl bromide	6.1	UN1737	II	POISON, CORROSIVE	A3, A7, N33, N34, T12, T26	None	202	243	1 L	30 L	D	13, 40	
	Benzoyl chloride	6.1	UN1738	II	POISON, CORROSIVE	A3, A7, B41, B70, N33, N43, T12, T26	None	202	243	1 L	30 L	D	13, 40	
	Benzyl chloride unstabilized	6.1	UN1738	II	POISON, CORROSIVE	A3, A7, B8, B11, N33, N34, N43, T12, T26	None	202	243	1 L	30 L	D	13, 40	
	Benzyl chloroformate	8	UN1739	I	CORROSIVE	A3, A6, B4, N41, T18, T26	None	201	243	Forbidden	2.5 L	D	40	
	Benzyl iodide	6.1	UN2663	II	POISON	T8	None	202	243	5 L	60 L	B	12, 40	
	Benzylmethylamine	8	UN2619	II	CORROSIVE; FLAM- MABLE LIQUID	B2, T1	None	202	243	1 L	30 L	A	40, 48	
	Benzylidene chloride	6.1	UN1886	II	POISON	T8	None	202	243	5 L	60 L	D	40	
	Beryllium compounds, n.o.s.	6.1	UN1566	II III	POISON KEEP AWAY FROM FOOD.		None 153	212 213	242 240	25 kg 100 kg 200 kg	100 kg 200 kg	A A	40	
	Beryllium nitrate	5.1	UN2464	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	40	
	Beryllium, powder	6.1	UN1567	II	POISON, FLAMMABLE SOLID.		None	212	242	15 kg	50 kg	A	40	
	Biphenyl triazone	Forbidden												
	Bipyridium pesticides, liquid, flammable, toxic, flash point less than 23 de- grees C	3	UN2782	I	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	None	201	243	Forbidden	30 L	E	40	
	Bipyridium pesticides, liquid, toxic	6.1	UN3016	I II III	POISON POISON KEEP AWAY FROM FOOD.	T42 T14 T14	None None 153	201 202 203	243 243 241	1 L 5 L 60 L	30 L 60 L 220 L	B B A	40 40 40	
	Bipyridium pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1	UN3015	I II	POISON, FLAMMABLE LIQUID; POISON, FLAMMABLE LIQUID.	T42 T14	None None	201 202	243 243	1 L 5 L	30 L 60 L	B B	21, 40 21, 40	

UN Number	Description	Class	Proper Name	Quantity	Label	Other	Notes
UN2781	Bipyridium pesticides, solid, toxic	6.1					21, 40
UN2837	Bis (Aminopropyl) piperazine, see Corrosive liquid, n.o.s.	8					40
UN2893	Bisulfites, aqueous solutions, n.o.s.	8					40
UN0028	Black powder, compressed or Gunpowder, compressed or Black powder, in pellets or Gunpowder, in pellets	1.1D					26, 40
UN0027	Black powder or Gunpowder, granular or as a meal	1.1D					1E, 5E 10E, 26E
UN0037	Blasting agent, n.o.s., see Explosives, blasting etc.	1.1F					
UN0039	Blasting cap assemblies, see Detonator assemblies, non-electric, for blasting	1.2G					
UN0299	Bombs, photo-flash	1.3G					
UN2028	Bombs, smoke, non-explosive, with corrosive liquid, without initiating device	8					40
UN0033	Bombs, with bursting charge	1.1F					3E, 7E 3E, 7E
UN0034	Bombs, with bursting charge	1.1D					7E, 16E, 23E 7E, 16E, 23E
UN0035	Bombs, with bursting charge	1.2D					24E 24E 1E, 7E
UN0291	Bombs, with bursting charge	1.2F					
UN0399	Bombs with flammable liquid, with bursting charge	1.1J					
UN0400	Bombs with flammable liquid, with bursting charge	1.2J					
NA0350	Boosters with detonator	1.4B					
UN0225	Boosters with detonator	1.1B					
UN0268	Boosters with detonator	1.2B					
UN0042	Boosters, without detonator	1.1D					
UN0283	Boosters, without detonator	1.2D					
UN1312	Borate and chlorate mixtures, see Chlorate and borate mixtures	4.1					
UN2692	Borax	8					12
UN1741	Boron trichloride	2.3					25, 40
UN1008	Boron trifluoride	2.3					40
UN1742	Boron trifluoride acetic acid complex	8					
UN2604	Boron trifluoride diethyl etherate	8					40
UN2851	Boron trifluoride dihydrate	8					12, 40, 21, 28, 40, 49, 100
UN2965	Boron trifluoride dimethyl etherate	4.3					
UN1743	Boron trifluoride propionic acid complex	8					
UN3213	Box, for gum, see Nitrocellulose etc.	5.1					56, 58, 106 56, 58, 106
UN1450	Bromates, inorganic, aqueous solution, n.o.s.	5.1					
UN1744	Bromates, inorganic, n.o.s.	Forbidden					12, 40, 66, 74, 89, 90
UN1745	Bromine azide	5.1					
UN1746	Bromine or Bromine solutions	5.1					
UN2901	Bromine chloride	2.3					40, 89, 90
UN1745	Bromine pentalloxide	5.1					25, 40, 66, 90
UN1746	Bromine trifluoride	5.1					25, 40, 66, 90

KEEP AWAY FROM FOOD, FLAMMABLE LIQUID, POISON, POISON, KEEP AWAY FROM FOOD, CORROSIVE, CORROSIVE, CORROSIVE, EXPLOSIVE 1.1D, EXPLOSIVE 1.1D, CLASS 9, EXPLOSIVE 1.1F, EXPLOSIVE 1.1D, EXPLOSIVE 1.2G, EXPLOSIVE 1.3G, CORROSIVE, EXPLOSIVE 1.1F, EXPLOSIVE 1.1D, EXPLOSIVE 1.2F, EXPLOSIVE 1.1J, EXPLOSIVE 1.2J, EXPLOSIVE 1.4B, EXPLOSIVE 1.1B, EXPLOSIVE 1.2B, EXPLOSIVE 1.1D, EXPLOSIVE 1.2D, FLAMMABLE SOLID, CORROSIVE, POISON, POISON GAS, CORROSIVE, POISON GAS, CORROSIVE, FLAMMABLE LIQUID, DANGEROUS WHEN WET, CORROSIVE, FLAMMABLE LIQUID, CORROSIVE, OXIDIZER, OXIDIZER, CORROSIVE, POISON GAS, CORROSIVE, OXIDIZER, CORROSIVE, OXIDIZER, POISON, CORROSIVE, OXIDIZER, POISON, CORROSIVE.

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§ 173.***)			(9) Quantity limitations		(10) Vessel storage re- quirements																																																																																																			
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railer	(9B) Cargo air- craft only		(10A) Vessel stowage age	(10B) Other stow- age provi- sions																																																																																																	
(1)	4-Bromo-1,2-dinitrobenzene	Forbidden	UN2341	III	FLAMMABLE LIQUID	B1, T7, T30	242	203	60 L	220 L	A																																																																																																				
	1-Bromo-1,2-dinitrobenzene (unstable at 59 degrees C.)																																																																																																														
	1-Bromo-3-methylbutane												Forbidden	UN3241	III	KEEP AWAY FROM FOOD.	46	240	213	50 kg	50 kg	C	12, 25, 40																																																																																								
	2-Bromo-2-nitropropane-1,3-diol																																																																																																														
	Bromoacetic acid, solid																							Forbidden	UN1938	II	CORROSIVE	A7, N34, T9	240	212	15 kg	50 kg	A																																																																														
	Bromoacetic acid, solution																																																																																																														
	Bromoacetone																																		Forbidden	UN1938	II	CORROSIVE	B2, T9	242	202	1 L	30 L	A	40																																																																		
	Bromoacetyl bromide																																																																																																														
	Bromobenzene																																													Forbidden	UN2513	III	CORROSIVE	2	245	193	Forbidden	Forbidden	D	40																																																							
	Bromobenzyl cyanides, liquid																																																																																																														
	Bromobenzyl cyanides, solid																																																								Forbidden	UN2514	III	CORROSIVE	82, T9, T26	242	202	1 L	30 L	C	40																																												
	2-Bromobutane																																																																																																														
	Bromochloromethane																																																																			Forbidden	UN1694	I	POISON	B1, T1	242	203	60 L	220 L	A	12, 40																																	
	2-Bromoethyl ethyl ether																																																																																																														
	Bromofluoromethane																																																																														Forbidden	UN1887	III	KEEP AWAY FROM FOOD.	B1, T1	242	202	5 L	60 L	D	12, 40																						
	Bromofluoromethane, R13B1																																																																																																														
	Bromomethylpropanes																																																																																									Forbidden	UN2340	II	FLAMMABLE LIQUID	T7	242	202	5 L	60 L	B	40											
	2-Bromopentane																																																																																																														
	3-Bromopropanes																																																																																																				Forbidden	UN2343	II	FLAMMABLE LIQUID	T7, T30	242	202	5 L	60 L	B	40
	3-Bromopropyne																																																																																																														
Bromosilane	Forbidden	UN2344	II	FLAMMABLE LIQUID	T7	242	202	5 L	60 L	B	40																																																																																																				
Bromotoluene-alpha, see Benzyl bromide																																																																																																															
Bromotrifluoroethylene												Forbidden	UN2345	II	FLAMMABLE LIQUID	T8	242	202	5 L	60 L	D	40																																																																																									
Bromotrifluoroethylene																																																																																																															
Bromotrifluoromethane, R13B1																							Forbidden	UN2419	II	FLAMMABLE GAS		314,	304	Forbidden	150 kg	B	40																																																																														
Bromotrifluoromethane, R13B1																																																																																																															
Brucine																																		Forbidden	UN1009	II	NONFLAMMABLE GAS		315	304	75 kg	150 kg	A																																																																				
Bursters, explosive																																																																																																															
Butadienes, inhibited																																													Forbidden	UN1570	I	POISON		211	242	5 kg	50 kg	A																																																									
Butane or Butane mixtures see also Petroleum gases, liquefied																																																																																																															
Butane, butane mixtures and mixtures having similar properties in car- tridges each not exceeding 500 grams, see Receptacles, etc.																																																								Forbidden	UN1010	II	EXPLOSIVE 1.1D FLAMMABLE GAS		314,	306	None	Forbidden	150 kg	B	40																																												
Butadiene																																																																																																															
1,2,4-Butanetriol trinitrate																																																																				Forbidden	UN1011	II	FLAMMABLE GAS	19	315	304	Forbidden	150 kg	E	40																																	
Butanols																																																																																																															
tert-Butoxycarbonyl azide																																																																															Forbidden	UN2346	II	FLAMMABLE LIQUID	T1	242	202	5 L	60 L	B																							
tert-Butoxycarbonyl azide																																																																																																															
Butyl acetates																																																																																										Forbidden	UN1120	III	FLAMMABLE LIQUID	B1, T1	242	203	60 L	220 L	A												
Butyl acetates																																																																																																															
Butyl alcohol phosphate																																																																																																					Forbidden	UN2708	III	FLAMMABLE LIQUID	T1	242	202	5 L	60 L	B	
Butyl alcohols, see Butanols																																																																																																															
Butyl benzenes	Forbidden	UN1123	III	FLAMMABLE LIQUID	B1, T1	242	203	60 L	220 L	A																																																																																																					
Butyl benzenes																																																																																																															
n-Butyl bromide												Forbidden	UN1718	III	CORROSIVE		241	203	5 L	60 L	A																																																																																										
n-Butyl bromide																																																																																																															
n-Butyl chloride, see Chlorobutanes																							Forbidden	UN2709	III	FLAMMABLE LIQUID	B1, T1	242	203	60 L	220 L	A																																																																															
n-Butyl chloride, see Chlorobutanes																																																																																																															
sec-Butyl chloroformate																																		Forbidden	UN1126	II	FLAMMABLE LIQUID	T1	242	202	5 L	60 L	B																																																																				
sec-Butyl chloroformate																																																																																																															
n-Butyl chloroformate																																													Forbidden	NA2742	I	POISON, FLAMMABLE LIQUID, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	244	227	1 L	30 L	A	12, 13, 22, 25, 40, 48, 100																																																								
n-Butyl chloroformate																																																																																																															
Butyl ethers, see Dibutyl ethers																																																								Forbidden	UN2743	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	244	227	1 L	30 L	A	12, 13, 21, 25, 40, 100																																													
Butyl ethyl ether, see Ethyl butyl ether																																																																																																															
n-Butyl formate																																																																			Forbidden	UN1128	II	FLAMMABLE LIQUID	T1	242	202	5 L	60 L	B																																			
n-Butyl formate																																																																																																															
tert-Butyl hydroperoxide, with more than 90 percent with water																																																																														Forbidden	UN3255	I	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		243	211	Forbidden	Forbidden	D																								
tert-Butyl hydroperoxide, with more than 90 percent with water																																																																																																															
tert-Butyl hypochlorite																																																																																									Forbidden	UN3255	I	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		243	211	Forbidden	Forbidden	D													
tert-Butyl hypochlorite																																																																																																															

Chemical Name	UN Number	Classification	Quantity	Labeling	Other	Section	Notes
N-n-Butyl imidazole	6.1 UN2690	POISON	202	243	5 L	202	None
tert-Butyl isocyanate	6.1 UN2484	POISON, FLAMMABLE LIQUID	None	244	Forbidden	226	None
n-Butyl isocyanate	6.1 UN2485	POISON, FLAMMABLE LIQUID	None	244	Forbidden	226	None
Butyl mercaptans	3 UN2347	FLAMMABLE LIQUID	150	242	5 L	202	150
n-Butyl methacrylate	3 UN2227	FLAMMABLE LIQUID	150	242	60 L	203	150
Butyl methyl ether	3 UN2350	FLAMMABLE LIQUID	150	242	5 L	202	150
Butyl nitriles	3 UN2351	FLAMMABLE LIQUID	150	243	1 L	201	150
tert-Butyl peroxyacetate, with more than 76 percent in solution	Forbidden	FLAMMABLE LIQUID	150	242	60 L	203	150
n-Butyl peroxydicarbonate, with more than 52 percent in solution	Forbidden	FLAMMABLE LIQUID	150	242	60 L	203	150
tert-Butyl peroxyisobutyrate, with more than 77 percent in solution	Forbidden	FLAMMABLE LIQUID	150	242	60 L	203	150
Butyl phosphonic acid, see Butyl acid phosphate							
5-tert-Butyl-2,4,6-trinitro-n-xylene or Musk xylene	4.1 UN2356	FLAMMABLE SOLID	None	None	Forbidden	214	None
Butyl vinyl ether, inhibited	3 UN2352	FLAMMABLE LIQUID	150	242	5 L	202	150
Butylacrylate	3 UN2348	FLAMMABLE LIQUID	150	242	60 L	203	150
n-Butylamine	3 UN1125	FLAMMABLE LIQUID, CORROSIVE	None	242	1 L	202	None
N-Butylamine	6.1 UN2738	POISON	None	243	5 L	202	None
tert-Butylcyclohexylchloroformate	6.1 UN2747	POISON	153	241	60 L	203	153
Butylene see also Petroleum gases, liquefied	2.1 UN1012	FLAMMABLE GAS	None	304	Forbidden	304	None
1,2-Butylene oxide, stabilized	3 UN3022	FLAMMABLE LIQUID	150	242	5 L	202	150
Butylpropionate	3 UN1914	FLAMMABLE LIQUID	150	242	60 L	203	150
Butyltoluenes	6.1 UN2667	KEEP AWAY FROM FOOD	153	241	60 L	203	153
Butyltrichlorosilane	8 UN1747	CORROSIVE, FLAMMABLE LIQUID	None	243	Forbidden	202	None
1,4-Butynediol	6.1 UN2716	KEEP AWAY FROM FOOD	None	240	100 kg	213	None
Butylaldehyde	3 UN1129	FLAMMABLE LIQUID	150	242	5 L	202	150
Butyraldoxime	3 UN2840	FLAMMABLE LIQUID	150	242	60 L	203	150
Butyric acid	8 UN2820	CORROSIVE	154	241	5 L	203	154
Butyric anhydride	8 UN2739	CORROSIVE	154	241	5 L	203	154
Butyronitrile	3 UN2411	FLAMMABLE LIQUID, POISON	None	243	1 L	202	None
Butyryl chloride	3 UN2353	FLAMMABLE LIQUID, CORROSIVE	None	243	1 L	202	None
Cacodylic acid	6.1 UN1572	POISON	None	242	25 kg	212	None
Cadmium compounds	6.1 UN2570	POISON	None	242	5 kg	211	None
Caesium hydroxide	8 UN2682	CORROSIVE	154	240	15 kg	212	154
Caesium hydroxide solution	8 UN2681	CORROSIVE	154	242	1 L	202	154
Calcium	4.3 UN1401	DANGEROUS WHEN WET	None	241	15 kg	212	None
Calcium arsenate	6.1 UN1573	POISON	None	242	25 kg	212	None
Calcium arsenite and calcium arsenite, mixtures, solid	6.1 UN1574	POISON	None	242	25 kg	212	None
Calcium arsenite, solid	6.1 NA1574	POISON	None	242	25 kg	212	None
Calcium bisulfite solution, see Bisulfites, inorganic, aqueous solutions							
Calcium carbide	4.3 UN1402	DANGEROUS WHEN WET	None	242	Forbidden	211	None
Calcium chlorate	5.1 UN1452	OXIDIZER	152	242	5 kg	212	152
Calcium chlorate aqueous solution	5.1 UN2429	OXIDIZER	152	242	1 L	202	152
Calcium chloride	5.1 UN1453	OXIDIZER	152	242	5 kg	212	152
Calcium cyanamide with more than 0.1 percent of calcium carbide	4.3 UN1403	DANGEROUS WHEN WET	None	241	25 kg	213	None
Calcium cyanide	6.1 UN1575	POISON	None	242	5 kg	211	None
Calcium dithionite or Calcium hydrosulfite	4.3 UN1923	SPONTANEOUSLY COMBUSTIBLE, DANGEROUS WHEN WET	None	241	15 kg	212	None
Calcium hydride	4.3 UN1404	DANGEROUS WHEN WET	None	242	Forbidden	211	None
Calcium hydrosulfite, see Calcium dithionite							
Calcium hypochlorite, dry or Calcium hypochlorite mixtures dry with more than 39 percent available chlorine (8.8 percent available oxygen)	5.1 UN1748	OXIDIZER	152	None	5 kg	212	152

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Chemical Name	UN Number	Classification	Labels	Quantity	Restrictions	Other	Notes
Chlorine trifluoride	2.3 UN1749	POISON GAS, OXIDIZER, CORROSIVE	2, 25, B7, B9, B14	None	304	Forbidden	40, 89, 90
Chlorine solution with more than 5 percent but less than 16 percent available chlorine	8 UN1908	CORROSIVE	A3, A6, A7, B2, N34, T8	154	203	60 L	26
Chlorine solution with not less than 16 percent available chlorine	8 UN1908	CORROSIVE	A3, A6, A7, B2, N34, T8	154	202	30 L	26
Chlorites, inorganic, n.o.s.	5.1 UN1462	OXIDIZER	A7, N34	192	212	25 kg	56, 58, 106
1-Chloro-3-bromopropane	6.1 UN2688	KEEP AWAY FROM FOOD	T2	153	203	220 L	
1-Chloro-1,1-difluoroethane, see Chlorodifluoroethanes							
1-Chloro-1,1-difluoroethanes, FI42B	5.1 UN2517	FLAMMABLE GAS		306	304	150 kg	40
3-Chloro-4-methylphenyl isocyanate	6.1 UN2236	POISON		None	202	60 L	40
1-Chloro-1,2,2,2-tetrafluoroethane, FI124	2.2 UN1021	NONFLAMMABLE GAS		306	304	150 kg	
a-Chloro-o-toluidine hydrochloride	6.1 UN1579	KEEP AWAY FROM FOOD		153	213	200 kg	
1-Chloro-2,2,2-trifluoroethane, FI33a	2.2 UN1983	NONFLAMMABLE GAS		306	304	150 kg	
Chloroacetic acid, molten	6.1 UN3250	POISON, CORROSIVE	T9	None	202	Forbidden	40
Chloroacetic acid, solid	6.1 UN1751	POISON, CORROSIVE	A3, A7, N34	None	212	50 kg	40
Chloroacetic acid, solution	6.1 UN1750	POISON, CORROSIVE	A7, N34, T8, T27	None	202	30 L	40
Chloroacetone, stabilized	6.1 UN1695	POISON	2, B9, B14, B32, B74, N12, N32, N34, T38, T43, T45	None	227	Forbidden	40
Chloroacetone (unstabilized)	Forbidden			None	227	60 L	12, 26, 40
Chloroacetonitrile	6.1 UN2663	POISON, FLAMMABLE LIQUID	2, B9, B14, B32, B74, T38, T43, T45	None	227	60 L	12, 40
Chloroacetonitrile (CN), liquid	6.1 UN1697	POISON	A3, N12, N32, N33	None	202	Forbidden	
Chloroacetonitrile (CN), solid	6.1 UN1687	POISON	A3, N12, N32, N33, N34	None	212	100 kg	12, 40
Chloroacetyl chloride	6.1 UN1752	POISON, CORROSIVE	2, A3, A6, A7, B3, B8, B9, B14, B32, B74, B77, N34, N43, T38, T43, T45	None	227	Forbidden	40
Chloroanilines, liquid	6.1 UN2019	POISON	T14, T38	None	202	60 L	
Chloroanilines, solid	6.1 UN2018	POISON	T14, T38	None	212	100 kg	
Chloroanisidines	6.1 UN2233	KEEP AWAY FROM FOOD		153	213	200 kg	
Chlorobenzene	3 UN1134	FLAMMABLE LIQUID	B1, T1	150	203	220 L	
Chlorobenzol, see Chlorobenzene							
Chlorobenzotrifluorides	3 UN2234	FLAMMABLE LIQUID	B1, T1	150	203	220 L	40
Chlorobenzyl chlorides	6.1 UN2235	KEEP AWAY FROM FOOD	T8	153	203	220 L	
Chlorobutanes	3 UN1127	FLAMMABLE LIQUID	B101, T8	150	202	60 L	
Chlorocresols, liquid	6.1 UN2669	POISON	T8	None	202	60 L	12
Chlorocresols, solid	6.1 UN2669	POISON		None	212	100 kg	12
Chlorodifluorobromomethane, FI2B1	2.2 UN1974	NONFLAMMABLE GAS		306	304	150 kg	
Chlorodifluoromethane and chloropentafluoroethane mixture with fixed boiling point, with approximately 49 percent chlorodifluoromethane, FI502							
Chlorodifluoromethane, FI22	2.2 UN1973	NONFLAMMABLE GAS		306	304	150 kg	
Chlorodinitrobenzenes	2.2 UN1918	NONFLAMMABLE GAS		306	304	150 kg	
2-Chloroethanol	6.1 UN1577	POISON	T14	None	212	100 kg	91
	6.1 UN2232	POISON	B74, T38, T43, T45	None	227	Forbidden	40
Chloroform	6.1 UN1885	KEEP AWAY FROM FOOD	N36, T14	153	203	60 L	40
Chloroformates, toxic, corrosive, flammable, n.o.s.	6.1 UN2742	POISON, CORROSIVE, FLAMMABLE LIQUID	5	None	202	30 L	12, 13, 21, 25, 40, 100
Chloroformates, toxic, corrosive, n.o.s.	6.1 UN3277	POISON, CORROSIVE	T12, T26	None	202	30 L	12, 13, 25, 40
Chloromethyl chloroformate	6.1 UN2745	POISON, CORROSIVE	T18	None	202	30 L	12, 13, 21, 25, 40, 100
Chloromethyl ethyl ether	3 UN2354	FLAMMABLE LIQUID, POISON, KEEP AWAY FROM FOOD	T8	None	202	60 L	40
Chloronitroanilines	6.1 UN2237			153	213	200 kg	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Labels (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§ 173.***)			(9) Quantity limitations		(10) Vessel storage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railer	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
+	Chloronitrobenzene, <i>ortho</i> , liquid	6.1	UN1578	II	POISON	T14	243	202	243	5 L	60 L	A	
	Chloronitrobenzenes <i>meta</i> or <i>para</i> , solid	6.1	UN1578	II	POISON	T14	242	212	242	25 kg	100 kg	A	
	Chloronitrobenzenes liquid	6.1	UN2433	III	KEEP AWAY FROM FOOD.		241	203	241	60 L	220 L	A	
	Chloronitrotoluenes, solid	6.1	UN2433	III	KEEP AWAY FROM FOOD.		240	213	240	100 kg	200 kg	A	
	Chloropentafluoroethane, R115	2.2	UN1020		NONFLAMMABLE GAS		314, 315	304	314, 315	75 kg	150 kg	A	
	Chlorophenolates, liquid or Phenolates, liquid	8	UN2904	III	CORROSIVE		241	203	241	5 L	60 L	A	
	Chlorophenolates, solid or Phenolates, solid	8	UN2905	III	CORROSIVE		213	203	240	25 kg	100 kg	A	
	Chlorophenols, liquid	6.1	UN2021	III	KEEP AWAY FROM FOOD.	T7	241	203	241	60 L	220 L	A	
	Chlorophenols, solid	6.1	UN2020	III	KEEP AWAY FROM FOOD.	T7	240	213	240	100 kg	200 kg	A	
	Chlorophenyltrichlorosilane	8	UN1753	II	CORROSIVE	A7, B2, B6, N34, T6, T26.	242	202	242	Forbidden	30 L	C	40
	Chloropicrin	6.1	UN1580	I	POISON	2, B7, B9, B14, B32, B46, B74, T38, T43, T45, 2, B9, B14	244	227	244	Forbidden	Forbidden	D	40
	Chloropicrin and methyl bromide mixtures	2.3	UN1581		POISON GAS	2	193	193	314, 315	Forbidden	Forbidden	D	25, 40
	Chloropicrin and methyl chloride mixtures	2.3	UN1582		POISON GAS	2	193	193	245	Forbidden	Forbidden	D	25, 40
	Chloropicrin mixture, flammable (pressure not exceeding 14.7 psia at 115 degrees F; flash point below 100 degrees F); see Toxic liquids, flammable, etc.	6.1	UN1583	I	POISON	5	201	201	243	Forbidden	Forbidden	C	40
	Chloropicrin mixtures, n.o.s.	6.1	UN1583	II	POISON	5	202	203	243	Forbidden	Forbidden	C	40
Chloropivaloyl chloride	6.1	NA9263	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45.	227	227	244	Forbidden	Forbidden	B	40	
Chloroplatinic acid, solid	8	UN2507	III	CORROSIVE		154	213	240	25 kg	100 kg	A	40	
Chloroprene, inhibited	3	UN1991	I	FLAMMABLE LIQUID, POISON.	B57, T15	201	201	243	Forbidden	30 L	D	40	
Chloroprene, uninhibited	Forbidden												
2-Chloropropane	3	UN2356	I	FLAMMABLE LIQUID	N36, T14	201	201	243	1 L	30 L	E		
3-Chloropropanol-1	6.1	UN2849	III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	A		
2-Chloropropene	3	UN2456	I	FLAMMABLE LIQUID	A3, N36, T20	201	201	243	1 L	30 L	E	8	
2-Chloropropionic acid	8	UN2511	III	CORROSIVE	T8	154	203	241	5 L	60 L	A	40	
2-Chloropyridine	6.1	UN2822	II	POISON	T14	202	203	243	5 L	60 L	A	40	
Chlorosilanes, corrosive, flammable, n.o.s.	8	UN2986	II	CORROSIVE, FLAMMABLE LIQUID.	B100	None	202	243	1 L	30 L	C	40	
Chlorosilanes, corrosive, n.o.s.	8	UN2987	II	CORROSIVE	B2	154	202	242	1 L	30 L	C	40	
Chlorosilanes, flammable, corrosive, n.o.s.	3	UN2985	II	FLAMMABLE LIQUID, CORROSIVE.	B100, T18, T26	None	201	243	1 L	5 L	B	40	
Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.	4.3	UN2988	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID, CORROSIVE.	A2	None	201	244	Forbidden	1 L	D	21, 28, 40, 49, 100	
Chlorosulfonic acid (with or without sulfur trioxide)	8	UN1754	I	CORROSIVE, POISON	2, A3, A6, A10, B9, B10, B14, B32, B74, T38, T43, T45, B1, T1	227	227	244	Forbidden	Forbidden	C	40	
Chlorobluenes	3	UN2238	III	FLAMMABLE LIQUID		203	203	242	60 L	220 L	A		
Chlorobluenes, liquid	6.1	UN2239	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A		
Chlorobluenes, solid	6.1	UN2239	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A		
Chlorotrifluoromethane and trifluoromethane azeotropic mixture with approximately 60 percent chlorotrifluoromethane, R503	2.2	UN2599		NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A		

UN1022	2.2	UN1022	NONFLAMMABLE GAS	306	304	314, 315	75 kg	150 kg	A	40
Chlorotrifluoromethane, R13										
Chromic acid, solid	5.1	NA1453	OXIDIZER, CORROSIVE	None	212	242	5 kg	25 kg	A	40
Chromic acid solution	8	UN1755	CORROSIVE	154	202	242	1 L	30 L	C	40
Chromic anhydride, see Chromium trioxide, anhydrous										
Chromic fluoride, solid	8	UN1756	CORROSIVE	154	212	240	16 kg	50 kg	A	26
Chromic fluoride, solution	8	UN1757	CORROSIVE	154	202	242	1 L	30 L	A	
Chromium nitrate	5.1	UN2720	OXIDIZER	152	213	240	25 kg	100 kg	A	40, 66, 74, 89, 90
Chromium oxychloride	8	UN1758	CORROSIVE	None	201	243	0.5 L	2.5 L	C	
Chromium trioxide, anhydrous	5.1	UN1463	OXIDIZER, CORROSIVE	None	212	242	5 kg	25 kg	A	40, 66, 74, 89, 90
Chromosulfonic acid	8	UN2240	CORROSIVE	None	201	243	0.5 L	2.5 L	B	
Chromyl chloride, see Chromium oxychloride										
Cigar and cigarette lighters, charged with fuel, see Lighters for cigars, cigarettes, etc.										
Coal briquettes, hot	Forbidden		POISON GAS, FLAMMABLE GAS	None	302	314, 315	Forbidden	25 kg	D	40
Coal gas	2.3	UN1023	FLAMMABLE LIQUID	150	202	242	5 L	60 L	B	
Coal tar distillates, flammable	3	UN1136	FLAMMABLE LIQUID	150	203	242	60 L	220 L	A	
Coal tar dye, corrosive, liquid; n.o.s. see Dyes, liquid or solid, n.o.s. or Dye intermediates, liquid or solid, n.o.s., corrosive										
Coating solution	3	UN1139	FLAMMABLE LIQUID	150	202	242	5 L	60 L	B	
Cobalt naphthenates, powder	4.1	UN2001	FLAMMABLE LIQUID	151	213	240	25 kg	100 kg	A	
Cobalt resinates, precipitated	4.1	UN1318	FLAMMABLE SOLID	151	213	240	25 kg	100 kg	A	
Coke, hot	Forbidden		FLAMMABLE SOLID	151	213	240	25 kg	100 kg	A	
Celluloid, see Nitrocellulose etc.										
Combustible liquid, n.o.s.	Combustible liquid	NA1993	None	150	203	241	60 L	220 L	A	
Components, explosive train, n.o.s.	1.2B	UN0382	EXPLOSIVE 1.2B	None	62	None	Forbidden	Forbidden	B	1E, 6E
Components, explosive train, n.o.s.	1.4B	UN0383	EXPLOSIVE 1.4B	None	62	None	Forbidden	75 kg	A	24E
Components, explosive train, n.o.s.	1.4S	UN0384	EXPLOSIVE 1.4S	None	62	None	25 kg	100 kg	A	
Components, explosive train, n.o.s.	1.1B	UN0461	EXPLOSIVE 1.1B	None	62	None	Forbidden	Forbidden	B	1E, 6E
Compositor B, see Hexonite, etc.										
Compounds, cleaning liquid	8	NA1760	CORROSIVE	None	201	243	0.5 L	2.5 L	B	40
Compounds, cleaning liquid	3	NA1993	CORROSIVE	154	202	242	1 L	50 L	B	40
Compounds, cleaning liquid	3	NA1993	CORROSIVE	154	202	242	1 L	50 L	B	40
Compounds, tree killing, liquid or Compounds, weed killing, liquid	8	NA1760	CORROSIVE	154	202	242	1 L	50 L	B	40
Compounds, tree killing, liquid or Compounds, weed killing, liquid	3	NA1993	CORROSIVE	154	202	242	1 L	50 L	B	40
Compounds, tree killing, liquid or Compounds, weed killing, liquid	3	NA1993	CORROSIVE	154	202	242	1 L	50 L	B	40
Compounds, tree killing, liquid or Compounds, weed killing, liquid	6.1	NA2810	POISON	None	201	243	1 L	30 L	B	40
Compressed gas, oxidizing, n.o.s.	2.2	UN1556	NONFLAMMABLE GAS, OXIDIZER	306	302	314, 315	75 kg	150 kg	D	40
Compressed gases, flammable, n.o.s.	2.1	UN1954	FLAMMABLE GAS	306	302, 305	314, 315	Forbidden	150 kg	D	40
Compressed gases, n.o.s.	2.2	UN1956	NONFLAMMABLE GAS	306, 307	302, 305	314, 315	75 kg	150 kg	A	
Compressed gases, toxic, flammable, n.o.s. Inhalation hazard Zone A	2.3	UN1953	POISON GAS, FLAMMABLE GAS	None	192	245	Forbidden	Forbidden	D	40, 95
Compressed gases, toxic, flammable, n.o.s. Inhalation hazard Zone B	2.3	UN1953	POISON GAS, FLAMMABLE GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40
Compressed gases, toxic, flammable, n.o.s. Inhalation Hazard Zone C	2.3	UN1953	POISON GAS, FLAMMABLE GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40
Compressed gases, toxic, flammable, n.o.s. Inhalation Hazard Zone D	2.3	UN1953	POISON GAS, FLAMMABLE GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40
Compressed gases, toxic, n.o.s. Inhalation Hazard Zone A	2.3	UN1955	POISON GAS	None	192	245	Forbidden	Forbidden	D	40
Compressed gases, toxic, n.o.s. Inhalation Hazard Zone B	2.3	UN1955	POISON GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40
Compressed gases, toxic, n.o.s. Inhalation Hazard Zone C	2.3	UN1955	POISON GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40
Compressed gases, toxic, n.o.s. Inhalation Hazard Zone D	2.3	UN1955	POISON GAS	None	302, 305	314, 315	Forbidden	Forbidden	D	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
D	Consumer commodity	ORM-D			None		156, 306	156, 306	None	30 kg gross	30 kg gross	A	
	Contrivances, water-activated, with buster, expelling charge or propelling charge	1.2L	UN0248	II	EXPLOSIVE 1.2L	101	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Contrivances, water-activated, with buster, expelling charge or propelling charge	1.3L	UN0249	II	EXPLOSIVE 1.3L	101	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E, 17E
	Copper acetoarsenite	6.1	UN1585	II	POISON		None	212	242	25 kg	100 kg	A	
	Copper acetylacrylate	Forbidden											
	Copper amine azide	Forbidden											
	Copper arsenite	6.1	UN1586	II	POISON		None	212	242	25 kg	100 kg	A	
	Copper based pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2776	I	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	B	40
	Copper based pesticides, liquid, toxic	6.1	UN3010	I	POISON	T42	None	201	243	1 L	30 L	B	40
	Copper based pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C	6.1	UN3009	I	POISON, FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
	Copper based pesticides, solid, toxic	6.1	UN2775	III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID, POISON	B1, T14	153	203	242	60 L	220 L	A	40
	Copper chlorate	5.1	UN2721	I	POISON	T42	None	201	243	1 L	30 L	B	40
	Copper chloride	8	UN2802	II	POISON	T14	None	202	243	5 L	60 L	B	40
	Copper cyanide	5.1	UN1587	II	POISON		None	204	242	25 kg	100 kg	A	40
	Copper selenate, see Selenates or Selenites												
	Copper selenite, see Selenates or Selenites												
	Copper tetramine nitrate	Forbidden											
AW	Copra	4.2	UN1363	III	SPONTANEOUSLY COMBUSTIBLE, EXPLOSIVE 1.1D, EXPLOSIVE 1.4D, EXPLOSIVE 1.2D, EXPLOSIVE 1.1D, EXPLOSIVE 1.4D		None	213	241	Forbidden	Forbidden	A	13, 19, 48, 119
	Cord, detonating, flexible	1.1D	UN0065	II	EXPLOSIVE 1.1D	102	63(a)	62	None	Forbidden	Forbidden	B	24E
	Cord, detonating, flexible	1.4D	UN0289	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	Forbidden	B	24E
	Cord, detonating or Fuse detonating metal clad	1.2D	UN0102	II	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	24E
	Cord, detonating or Fuse, detonating metal clad	1.1D	UN0280	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	24E
	Cord, detonating, mild effect or Fuse, detonating, mild effect metal clad	1.4D	UN0104	II	EXPLOSIVE 1.4D		None	62	None	Forbidden	Forbidden	A	24E
	Cord, igniter	1.4G	UN0066	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	Forbidden	A	24E
	Cordeau detonant fuse, see Cord, detonating, etc., Cord, detonating, flexible												
	Corollia, see Powder, smokeless												
	Corrosive liquid, acidic, inorganic, n.o.s.	8	UN3264	I	CORROSIVE	B10	None	201	243	0.5 L	2.5 L	B	40
	Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	III	CORROSIVE	B2, T14	154	203	242	1 L	30 L	B	40
	Corrosive liquid, acidic, organic, n.o.s.	8	UN3266	III	CORROSIVE	B10	154	203	241	5 L	60 L	A	40
	Corrosive liquid, basic, inorganic, n.o.s.	8	UN3267	III	CORROSIVE	B10	154	203	241	5 L	60 L	A	40
	Corrosive liquid, basic, organic, n.o.s.	8	UN3267	III	CORROSIVE	B10	154	203	241	5 L	60 L	A	40

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym-bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
	Coumarin derivative pesticides, liquid, toxic, flammable flashpoint less than 23 degrees C	6.1	UN3025	I	POISON, FLAMMABLE LIQUID.		None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.		None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1	153	203	242	60 L	220 L	A	40
	Coumarin derivative pesticides, solid, toxic	6.1	UN3027	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Cresols	6.1	UN2076	II	POISON, CORROSIVE	B110, T8	None	202	243	1 L	30 L	B	
	Cresylic acid	6.1	UN2022	II	POISON, CORROSIVE	T8	None	202	243	1 L	30 L	B	
	Crotonaldehyde, stabilized	6.1	UN1143	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	Forbidden	B	40
	Crotic acid liquid	8	UN2823	III	CORROSIVE		154	203	241	5 L	60 L	A	12
	Crotonic acid, solid	8	UN2823	III	CORROSIVE		154	213	240	25 kg	100 kg	A	12
	Crotonylene	3	UN1144	I	FLAMMABLE LIQUID	T20	150	201	243	1 L	30 L	E	
	Cupriethylenediamine solution	8	UN1761	II	CORROSIVE, POISON	T8, T26	None	202	243	1 L	30 L	A	95
				III	CORROSIVE, KEEP AWAY FROM FOOD.	T7	154	203	242	5 L	60 L	A	95
	Cutters, cable, explosive	1.4S	UN0070	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Cyanide or cyanide mixtures, dry, see Cyanides, inorganic, solid, n.o.s.												
	Cyanide solutions, n.o.s.	6.1	UN1935	I	POISON	B37, T18, T26	None	201	243	1 L	30 L	B	40, 52
				II	POISON	T18, T26	None	202	243	5 L	60 L	A	40, 52
				III	KEEP AWAY FROM FOOD	T18, T26	153	203	241	60 L	220 L	A	40, 52
	Cyanides, inorganic, solid, n.o.s.	6.1	UN1588	I	POISON	N74, N75	None	211	242	5 kg	50 kg	A	52
				II	POISON	N74, N75	None	212	242	25 kg	100 kg	A	52
				III	KEEP AWAY FROM FOOD.	N74, N75	153	213	240	100 kg	200 kg	A	52
	Cyanogen bromide	6.1	UN1889	I	POISON, CORROSIVE	A6, A8	None	211	242	Forbidden	Forbidden	D	40
	Cyanogen chloride, inhibited	2.3	UN1589	I	POISON GAS, CORRO-SIVE.	1	None	192	245	Forbidden	Forbidden	D	40
				II	POISON GAS, FLAM-MABLE GAS.	2	None	192	245	Forbidden	Forbidden	D	40
	Cyanogen, liquefied	2.3	UN1026	II	CORROSIVE		None	212	240	15 kg	50 kg	A	12, 40
	Cyanuric chloride	8	UN2670	III	FLAMMABLE GAS		None	212	240	15 kg	50 kg	A	12, 40
	Cyclobutane	2.1	UN2601	II	FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
	Cyclobutyl chloroformate	6.1	UN2744	II	POISON, CORROSIVE	T18	None	202	243	1 L	30 L	A	12, 13, 21, 25, 40, 100
	1,5-Cyclododecatriene	6.1	UN2518	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	40
	Cycloheptane	3	UN2241	III	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	40
	Cycloheptatriene	3	UN2603	II	FLAMMABLE LIQUID, POISON.	T14	None	202	243	1 L	60 L	E	40
	Cycloheptene	3	UN2242	III	FLAMMABLE LIQUID	B1, T7	150	202	242	5 L	60 L	B	
	Cyclohexane	3	UN1145	III	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	
	Cyclohexanone	3	UN1915	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Cyclohexene	3	UN2256	III	FLAMMABLE LIQUID	B101, T7	150	202	242	5 L	60 L	E	
	Cyclohexenyltrichlorosilane	8	UN1762	II	CORROSIVE	A7, B2, N34, T8, T26.	None	202	242	Forbidden	30 L	C	40
	Cyclohexyl acetate	3	UN2243	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Cyclohexyl isocyanate	6.1	UN2488	II	POISON	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	5 L	60 L	D	40
	Cyclohexyl mercaptan	3	UN3054	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40, 95
	Cyclohexylamine	8	UN2357	II	CORROSIVE, FLAM-MABLE LIQUID.	B100, T8, T26	None	202	243	1 L	30 L	A	40

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UN1763	8	UN1763	II	CORROSIVE	A7, B2, N34, T8, T26	None	202	242	Forbidden	30 L	C	40
Cyclohexylchlorosilane												
Cyclonite and cyclotramethylenetetramine mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclonite and HMX mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclonite and octogen mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclonite, see Cyclotrimethylenetrinitramine, etc.												
Cyclooctadiene phosphines, see 9-Phosphabicyclononanes												
Cyclooctadienes	3	UN2520	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclooctatetraene	3	UN2358	II	FLAMMABLE LIQUID	T8	150	202	242	60 L	60 L	B	
Cyclopentane	3	UN1146	II	FLAMMABLE LIQUID	B101, T14	150	202	242	5 L	60 L	E	
Cyclopentane, methyl, see Methylcyclopentane												
Cyclopentanol	3	UN2244	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclohexanone	3	UN2245	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Cyclohexane	3	UN2246	II	FLAMMABLE LIQUID	B101, T13	150	202	242	5 L	60 L	E	
Cyclopropane, liquefied	2.1	UN1027	II	FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	E	40
Cyclotramethylene tetranitramine (dry or unphlegmatized) (HMX)	Forbidden											
Cyclotramethylenetetranitramine, desensitized or Octogen, desensitized or HMX, desensitized	1.1D	UN0484	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Cyclotramethylenetetranitramine, wetted or HMX, wetted or Octogen, wetted with not less than 15 percent water, by mass	1.1D	UN0226	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Cyclotrimethylenetrinitramine and octogen, mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclotrimethylenetrinitramine and cyclotramethylenetetranitramine mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclotrimethylenetrinitramine and HMX mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
Cyclotrimethylenetrinitramine, desensitized or Cyclonite, desensitized or Hexogen, desensitized or RDX, desensitized	1.1D	UN0483	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Cyclotrimethylenetrinitramine, wetted or Cyclonite, wetted or Hexogen, wetted or RDX, wetted with not less than 15 percent water by mass	1.1D	UN0072	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
Cymenes	3	UN2046	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Decaborane	4.1	UN1868	II	FLAMMABLE SOLID, POISON	A19, A20	None	212	None	Forbidden	50 kg	A	
Decahydronaphthalene	3	UN1147	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
n-Decane	3	UN2247	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Deflagrating metal salts of aromatic nitroderivatives, n.o.s	1.3C	UN0132	II	EXPLOSIVE 1.3C		None	62	None	Forbidden	Forbidden	B	1E, 5E
Delay electric igniter, see Igniters												
Denatured alcohol	3	NA1966	I	FLAMMABLE LIQUID, POISON	T8, T31	None	201	243	Forbidden	30 L	E	40
Denatured alcohol												
Denatured alcohol												
Depth charges, see Charges, depth												
Detonating relays, see Detonators, etc.												
Detonator assemblies, non-electric for blasting	1.1B	UN0360	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
Detonator assemblies, non-electric, for blasting	1.4B	UN0361	II	EXPLOSIVE 1.4B	103	63(f), 63(f)	62	None	Forbidden	75 kg	A	24E
Detonators, electric, for blasting	1.1B	UN0030	II	EXPLOSIVE 1.1B		63(f), 63(f)	62	None	Forbidden	Forbidden	B	2E, 6E
Detonators, electric, for blasting	1.4B	UN0255	II	EXPLOSIVE 1.4B	103	63(f), 63(f)	62	None	Forbidden	75 kg	A	24E
Detonators, electric for blasting	1.4S	UN0456	II	EXPLOSIVE 1.4S	104	63(f), 63(f)	62	None	Forbidden	100 kg	A	24E
Detonators for ammunition	1.1B	UN0073	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
Detonators for ammunition	1.2B	UN0364	II	EXPLOSIVE 1.2B		None	62	None	Forbidden	Forbidden	B	2E, 6E
Detonators for ammunition	1.4B	UN0365	II	EXPLOSIVE 1.4B	103	None	62	None	Forbidden	75 kg	A	24E
Detonators for ammunition	1.4S	UN0366	II	EXPLOSIVE 1.4S	104	None	62	None	Forbidden	100 kg	A	24E
Detonators, non-electric, for blasting	1.1B	UN0029	II	EXPLOSIVE 1.1B		None	62	None	Forbidden	Forbidden	B	2E, 6E
Detonators, non-electric, for blasting	1.4B	UN0267	II	EXPLOSIVE 1.4B	103	63(f), 63(f)	62	None	Forbidden	75 kg	A	24E
Detonators, non-electric for blasting	1.4S	UN0455	II	EXPLOSIVE 1.4S	104	63(f), 63(f)	62	None	Forbidden	100 kg	A	24E
Deuterium	2.1	UN1957	II	FLAMMABLE GAS		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	III	FLAMMABLE GAS		306	304	None	Forbidden	150 kg	B	40
Di-n-amylamine	3	UN2841	III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T8	150	203	242	60 L	220 L	A	40

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\$172.101 HAZARDOUS MATERIALS TABLE—Continued

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	Pack-ing group	Label(s) required (if not excepted)	Special provisions	Packaging authorizations (§173.***)			Quantity limitations		Vessel stowage re-quirements	
							Excep-tions (8A)	Non-bulk pack-aging (8B)	Bulk pack-aging (8C)	Passenger aircraft or railcar (9A)	Cargo air-craft only (9B)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	D <i>n</i> -butyl peroxydicarbonate, with more than 52 percent in solution	Forbidden 8	UN2248	II	CORROSIVE, FLAM-MABLE LIQUID.	T8	None	202	243	1 L	30 L	A	
	D <i>n</i> -butylamine	Forbidden 8											
	2,2-Di-(<i>tert</i> -butylperoxy) butane, with more than 55 percent in solution	Forbidden 3											
	D <i>n</i> -(<i>tert</i> -butylperoxy) phthalate, with more than 55 percent in solution	Forbidden 3											
	2,2-Di-(4,4-di- <i>tert</i> -butylperoxy)cyclohexyl) propane, with more than 42 per-cent with inert solid	Forbidden 3											
	Di-2,4-dichlorobenzoyl peroxide, with more than 75 percent with water	Forbidden 3											
	1,2-Di-(dimethylamino)ethane	Forbidden 3											
	Di-2-ethylhexyl phosphoric acid, see Diisooctyl acid phosphate												
	Di-(1-naphthyl) peroxide	Forbidden 3											
	Di-(1-naphthyl) peroxide	Forbidden 3											
	Di-(β -nitroxy) methyl ether	Forbidden 3											
	Di-(β -nitroxyethyl) ammonium nitrate	Forbidden 3											
	Diacetone alcohol	Forbidden 3	UN1148	III	FLAMMABLE LIQUID	T1, B1, T1	150	202	242	5 L	60 L	B	
	Diacetone alcohol peroxides, with more than 57 percent in solution with more than 9 percent hydrogen peroxide, less than 25 percent diacetone al-cohol and less than 9 percent water, total active oxygen content more than 9 percent by mass	Forbidden 3											
	Diacetyl, see Butanedione	Forbidden 3											
	Diacetyl peroxide, solid, or with more than 25 percent in solution	Forbidden 3	UN2359	II	FLAMMABLE LIQUID, POISON, CORROSIVE, FLAMMABLE LIQUID, POISON.	T8	None	202	243	1 L	5 L	B	21, 40, 100
	Diallylamine	Forbidden 3											
	Diallyl ether	Forbidden 3	UN2360	III	FLAMMABLE LIQUID, POISON, CORROSIVE, FLAMMABLE LIQUID, POISON.	N12, T8	None	202	243	1 L	60 L	E	40
	4,4'-Diaminodiphenyl methane	6.1	UN2851	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	<i>p</i> -Diazobenzene	Forbidden 1.1A											
	1,2-Diazidoethane	Forbidden 1.1A											
	1,1'-Diazaminonaphthalene	Forbidden 1.1A											
	Diazaminotriazole (dry)	Forbidden 1.1A											
	Diazodinitrophenol (dry)	Forbidden 1.1A											
	Diazodinitrophenol, wetted with not less than 40 percent water or mixture of alcohol and water, by mass	Forbidden 1.1A											
	Diazodiphenylmethane	Forbidden 1.1A	UN0074	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Diazonium nitrate (dry)	Forbidden 1.1A											
	Diazonium perchlorate (dry)	Forbidden 1.1A											
	1,3-Diazopropane	Forbidden 1.1A											
	Dibenzyl peroxydicarbonate, with more than 87 percent with water	Forbidden 8											
	Dibenzylchlorosilane	Forbidden 2.3	UN2434	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	C	40
	Diborane	Forbidden 2.3	UN1911	II	POISON GAS, FLAM-MABLE GAS.	1	None	302	None	Forbidden	Forbidden	D	40, 57
	Diborane mixtures	2.1	NA1911	II	FLAMMABLE GAS	5	None	302	245	Forbidden	Forbidden	D	40, 57
	Dibromooxethylene	Forbidden 2.1											
	Dibromobenzene	Forbidden 3	UN2711	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	1,2-Dibromobutan-3-one	6.1	UN2648	II	POISON		None	202	243	5 L	60 L	B	40
	Dibromochloropropane	6.1	UN2872	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Dibromodifluoromethane, R12B2	9	UN1941	III	KEEP AWAY FROM FOOD.	T22	155	203	241	100 L	220 L	A	25
	1,2-Dibromoethane, see Ethylene dibromide												
	Dibromomethane	6.1	UN2664	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Dibutyl ethers	3	UN1149	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Dibutylaminoethanol	6.1	UN2873	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	N,N'-Dichlorozodiacarbonamide (salts of) (dry)	Forbidden 6.1	UN2650	II	POISON	T8	None	202	243	5 L	60 L	A	12, 40
	1,1-Dichloro-1-nitroethane	6.1	NA9264	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	A	40, 95
	3,5-Dichloro-2,4,6-trifluoropyridine	6.1											
	Dichloroacetic acid	8	UN1764	II	CORROSIVE	A3, A5, A7, B2, N34, T9, T27	154	202	242	1 L	30 L	A	

Chemical Name	UN Number	Class	Quantity	Label	Special	Code	Quantity	Label	Special	Code	Quantity	Label	Special	Code
1,3-Dichloroacetone	UN2649	II	242	POISON	A3, A6, A7, B2, B8, N34, T8, T26.	None	242	5 L	POISON	212	100 kg	B	12, 40	
Dichloroacetyl chloride	UN1765	II	242	CORROSIVE	A3, A6, A7, B2, B8, N34, T8, T26.	154	242	1 L	CORROSIVE	202	30 L	D	40	
Dichloroacetylene	UN1590	III	243	POISON	T14	None	243	5 L	POISON	202	60 L	A	40	
Dichloroanilines, liquid	UN1590	III	242	POISON	T14	None	242	25 kg	POISON	212	100 kg	A	40	
Dichloroanilines, solid	UN1591	III	241	KEEP AWAY FROM FOOD.	T7	153	241	60 L	KEEP AWAY FROM FOOD.	203	220 L	A	40	
o-Dichlorobenzene	UN1591	III	241	KEEP AWAY FROM FOOD.	T7	153	241	60 L	KEEP AWAY FROM FOOD.	203	220 L	A	40	
Dichlorobutene	NA2920	I	243	CORROSIVE, FLAMMABLE LIQUID.	N33, N34, T8	None	243	0.5 L	CORROSIVE, FLAMMABLE LIQUID.	201	2.5 L	C	12, 21, 25, 40, 48	
2,2-Dichloroethyl ether	UN1916	II	243	POISON, FLAMMABLE LIQUID.	N33, N34, T8	None	243	5 L	POISON, FLAMMABLE LIQUID.	202	60 L	A	40	
Dichlorodifluoromethane and difluoroethane azeotropic mixture with approximately 74 percent dichlorodifluoromethane, R500	UN2602	II	314, 315	NONFLAMMABLE GAS.		306	314, 315	75 kg	NONFLAMMABLE GAS.	304	150 kg	A		
Dichlorodifluoromethane, R12	UN1028	II	314, 315	NONFLAMMABLE GAS.		306	314, 315	75 kg	NONFLAMMABLE GAS.	304	150 kg	A		
Dichlorodimethyl ether, symmetrical	UN2249	I	242	POISON	T25	None	242	5 L	POISON	202	60 L	B	40	
1,1-Dichloroethane	UN2362	II	242	FLAMMABLE LIQUID	B101, T7	150	242	5 L	FLAMMABLE LIQUID	202	60 L	B	40	
1,2-Dichloroethane, see Ethylene dichloride														
Dichloroethyl sulfide	UN1150	II	242	FLAMMABLE LIQUID	T14	150	242	5 L	FLAMMABLE LIQUID	202	60 L	B		
Dichloroethylene	UN1028	II	242	NONFLAMMABLE GAS	T14	306	314, 315	75 kg	NONFLAMMABLE GAS	304	150 kg	A		
Dichlorofluoromethane, R21	UN1028	II	242	NONFLAMMABLE GAS	T14	306	314, 315	75 kg	NONFLAMMABLE GAS	304	150 kg	A		
Dichloroacetic acid, dry or Dichloroacetic acid salts	UN2465	II	242	OXIDIZER	T8	152	242	5 kg	OXIDIZER	212	25 kg	A	13	
Dichloroisopropyl ether	UN2480	III	243	POISON	T8	None	243	5 L	POISON	202	60 L	B		
Dichloromethane	UN1593	III	241	KEEP AWAY FROM FOOD.	N36, T13	153	241	60 L	KEEP AWAY FROM FOOD.	203	220 L	A		
Dichloropentanes	UN1152	III	242	FLAMMABLE LIQUID	B1, T1	150	242	60 L	FLAMMABLE LIQUID	203	220 L	A		
Dichlorophenyl isocyanates	UN2250	III	242	POISON	A7, B2, B6, N34, T8, T26.	None	242	25 kg	POISON	212	100 kg	A	25, 40, 48	
Dichlorophenyltrichlorosilane	UN1766	II	242	CORROSIVE	A7, B2, B6, N34, T8, T26.	None	242	Forbidden	CORROSIVE	202	30 L	C	40	
Dichloropropane, see Propylene dichloride														
1,3-Dichloropropanol-2	UN2750	II	243	POISON	T8	None	243	5 L	POISON	202	60 L	A	12, 40	
Dichloropropene and propylene dichloride mixture, see Propylene dichloride														
Dichloropropenes	UN2047	II	242	FLAMMABLE LIQUID	T8	150	242	5 L	FLAMMABLE LIQUID	202	60 L	B		
Dichlorosilane	UN2189	III	314, 315	POISON GAS, FLAMMABLE GAS, CORROSIVE	B1, T8, 2, B9, B14	None	314, 315	Forbidden	POISON GAS, FLAMMABLE GAS, CORROSIVE	304	Forbidden	D	17, 40	
Dichlorotetrafluoroethane, R114	UN1968	II	314, 315	NONFLAMMABLE GAS	T8	306	314, 315	75 kg	NONFLAMMABLE GAS	304	150 kg	A		
Dichlorovinylchloroarsine	UN2555	III	241	CORROSIVE	T8	154	241	5 L	CORROSIVE	203	60 L	A		
Dicyclohexadiene, see 2,5-Norbornadiene														
Dicyclohexylamine	UN2687	III	240	FLAMMABLE SOLID	B1, T1	153	240	25 kg	FLAMMABLE SOLID	213	100 kg	A	48	
Dicyclohexylammonium nitrate	UN2048	III	240	FLAMMABLE LIQUID	A1	150	240	60 L	FLAMMABLE LIQUID	203	220 L	A		
Dicyclopentadiene	UN1465	III	240	OXIDIZER	B1, T1	152	240	25 kg	OXIDIZER	213	100 kg	A		
Diethyl ether	NA2781	III	242	POISON	B1	None	242	0.5 kg	POISON	212	5 kg	A	40	
Dieldrin	NA2781	III	242	POISON	B1	None	242	0.5 kg	POISON	212	5 kg	A	40	
Diesel fuel	NA1983	III	242	None	B1	150	242	60 L	None	203	220 L	A		
Diethanol nitrosamine dinitrate (dry)	UN2373	II	242	FLAMMABLE LIQUID	T8	150	242	5 L	FLAMMABLE LIQUID	202	60 L	E	40	
Diethoxymethane	UN2374	II	242	FLAMMABLE LIQUID	T1	150	242	5 L	FLAMMABLE LIQUID	202	60 L	B		
3,3-Diethoxypropene	UN2366	III	242	FLAMMABLE LIQUID	B1, T1	150	242	60 L	FLAMMABLE LIQUID	203	220 L	A		
Diethyl carbonate	UN1155	I	243	FLAMMABLE LIQUID	T1	150	243	1 L	FLAMMABLE LIQUID	201	30 L	E		
Diethyl celosolve, see Ethylene glycol diethyl ether														
Diethyl ether or Ethyl ether	UN1156	I	242	FLAMMABLE LIQUID	T1	150	242	5 L	FLAMMABLE LIQUID	202	60 L	B		
Diethyl ketone	UN1594	II	243	POISON	B101, T14	None	243	5 L	POISON	202	60 L	C		
Diethyl peroxycarbonate, with more than 27 percent in solution	UN2375	II	243	FLAMMABLE LIQUID	B101, T14	None	243	1 L	FLAMMABLE LIQUID	202	60 L	E		
Diethyl sulfate	UN1154	II	243	FLAMMABLE LIQUID	B101, N34, T8	None	243	1 L	FLAMMABLE LIQUID	202	5 L	E	40	
Diethyl sulfide	UN1154	II	243	CORROSIVE	B101, N34, T8	None	243	1 L	CORROSIVE	202	5 L	E	40	
Diethylamine	UN2684	III	242	FLAMMABLE LIQUID	B1, T1	150	242	60 L	FLAMMABLE LIQUID	203	220 L	A		
Diethylaminoethanol	UN2686	III	242	FLAMMABLE LIQUID	B1, T8	150	242	5 L	FLAMMABLE LIQUID	203	60 L	A		
Diethylaminopropylamine	UN2684	III	242	FLAMMABLE LIQUID	B1, T8	150	242	5 L	FLAMMABLE LIQUID	203	60 L	A		
N,N-Diethylaniline	UN2432	III	241	KEEP AWAY FROM FOOD.	T2	153	241	60 L	KEEP AWAY FROM FOOD.	203	220 L	A		
Diethylbenzene	UN2049	III	242	FLAMMABLE LIQUID	B1, T1	150	242	60 L	FLAMMABLE LIQUID	203	220 L	A		
Diethyldichlorosilane	UN1767	II	243	CORROSIVE, FLAMMABLE LIQUID	A7, B6, B100, N34, T8, T26.	None	243	Forbidden	CORROSIVE, FLAMMABLE LIQUID	202	30 L	C	40	
Diethylene glycol dinitrate	UN0075	II	None	EXPLOSIVE 1.1D	B2, T8	None	None	Forbidden	EXPLOSIVE 1.1D	62	Forbidden	B	1E, 4E, 21E	
Diethyleneglycol dinitrate, desensitized with not less than 25 percent non-volatile water-insoluble phlegmatizer, by mass	UN2079	II	242	CORROSIVE		154	242	1 L	CORROSIVE	202	30 L	A	40	

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$175...)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or raitar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
	N,N-Diethylethylenediamine	8	UN2685	II	CORROSIVE, FLAM- MABLE LIQUID.	T8	None	202	243	1 L	30 L	A	
	Diethylgold bromide	Forbidden					None	212	240	15 kg	50 kg	C	40
	Diethylthiophosphoryl chloride	8	UN2751	II	SPONTANEOUSLY COMBUSTIBLE.	B2, T8	None	161	244	Forbidden	Forbidden	D	18
	Diethylzinc	4.2	UN1366	I	FLAMMABLE GAS	B11, T28, T40	306	304	314, 315	Forbidden	150 kg	B	40
	Difluorochloroethanes, see 1-Chloro-1,1-difluoroethanes						None	202	242	1 L	30 L	A	40
	1,1-Difluoroethane, FI 52a	2.1	UN1030	II	FLAMMABLE GAS	A6, A7, B2, N5, N34, T9, T27.	150	202	242	5 L	60 L	B	40, 49
	1,1-Difluoroethylene, FI 132a	2.1	UN1958	II	FLAMMABLE GAS		150	203	242	60 L	220 L	A	
	Difluoromethane	2.1	UN3252	III	FLAMMABLE LIQUID	B1, T1	150	203	242	5 L	60 L	A	
	Difluorophosphoric acid, anhydrous	8	UN1768	II	CORROSIVE	B1, T1	150	202	242	5 L	60 L	B	
	2,3-Dihydropran	3	UN2376	III	FLAMMABLE LIQUID		150	202	242	5 L	60 L	B	
	1,9-Dihydroxy-2,4,5,7-tetranitroanthraquinone (chrysamminic acid)	Forbidden					150	202	242	5 L	60 L	B	
	Diodoacetone	Forbidden					150	202	242	5 L	60 L	B	
	Dioctyl ketone	3	UN1157	III	FLAMMABLE LIQUID		150	202	242	5 L	60 L	B	
	Discobutylamine	3	UN2361	III	CORROSIVE		150	202	242	5 L	60 L	B	
	Diisobutylene, isomeric compounds	3	UN2050	III	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Diisocetyl acid phosphate	8	UN1902	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Disopropyl ether	3	UN1159	III	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	40
	Diisopropylamine	3	UN1158	II	FLAMMABLE LIQUID	B101, T8	None	202	243	1 L	5 L	B	
	Diisopropylbenzene hydroperoxide, with more than 72 percent in solution	Forbidden					None	227	244	Forbidden	Forbidden	D	40, 49
	Diketene, inhibited	6.1	UN2521	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45.	150	202	242	5 L	60 L	B	
	1,2-Dimethoxyethane	3	UN2252	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	1,1-Dimethoxyethane	3	UN2377	II	FLAMMABLE LIQUID	T13	150	202	242	5 L	60 L	B	
	Dimethyl carbonate	3	UN1161	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	
	Dimethyl chlorophosphate, see Dimethyl thiophosphoryl chloride												
	2,5-Dimethyl-2,5-dihydroperoxy hexane, with more than 62 percent with water	Forbidden					150	202	242	5 L	60 L	B	40
	Dimethyl disulfide	3	UN2381	II	FLAMMABLE LIQUID	T8	306	304	314, 315	Forbidden	150 kg	B	40
	Dimethyl ether	2.1	UN1033	II	FLAMMABLE GAS		None	202	243	1 L	5 L	B	40
	Dimethyl-N-propylamine	3	UN2266	II	FLAMMABLE LIQUID	T14, T26	None	202	243	1 L	5 L	B	40
	Dimethyl sulfate	6.1	UN1695	I	CORROSIVE, POISON, CORROSIVE	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	40
	Dimethyl sulfide	3	UN1164	II	FLAMMABLE LIQUID	B100, T14	None	202	242	5 L	60 L	E	40
	Dimethyl thiophosphoryl chloride	6.1	UN2267	II	POISON, CORROSIVE	T7	None	202	243	1 L	30 L	B	25
	Dimethylamine, anhydrous	2.1	UN1032	II	FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	D	40
	Dimethylamine solution	3	UN1160	II	FLAMMABLE LIQUID	T8, T34	None	202	243	1 L	5 L	B	40
	2-Dimethylaminoacetone	3	UN2378	II	CORROSIVE, FLAMMABLE LIQUID	T8	None	202	243	1 L	60 L	A	26, 40
	2-Dimethylaminoethanol	8	UN2051	II	CORROSIVE, FLAM- MABLE LIQUID	B2, T8	154	202	243	1 L	30 L	A	
	Dimethylaminoethyl methacrylate	6.1	UN2522	II	POISON	T8	None	202	243	5 L	60 L	B	40
	N,N-Dimethylamine	6.1	UN2253	II	POISON	T8	None	202	243	5 L	60 L	A	
	2,3-Dimethylbutane	3	UN2457	III	FLAMMABLE LIQUID	T13	150	202	242	5 L	60 L	E	
	1,3-Dimethylbutylamine	3	UN2379	III	FLAMMABLE LIQUID	T8	None	202	243	1 L	5 L	B	
	Dimethylcarbamoyl chloride	8	UN2262	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	40
	Dimethylcyclohexanes	3	UN2263	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	40
	Dimethylcyclohexylamine	8	UN2264	II	CORROSIVE, FLAM- MABLE LIQUID	B2, T8	154	202	243	1 L	30 L	A	40

Chemical Name	UN Number	Quantity	Label	UN Number	Quantity	Label	UN Number	Quantity	Label	UN Number	Quantity	Label	UN Number	Quantity	Label	UN Number	Quantity	Label
Dimethyldichlorosilane	UN1162	3	FLAMMABLE LIQUID, CORROSIVE	II	None	202	None	243	Forbidden	Forbidden	B	40						
Dimethyldiethoxysilane	UN2380	3	FLAMMABLE LIQUID	II	150	202	242	5 L	Forbidden	60 L	B	40						
Dimethyldioxanes	UN2707	3	FLAMMABLE LIQUID	II	150	202	242	5 L	Forbidden	60 L	B	40						
N,N-Dimethylformamide	UN2285	3	FLAMMABLE LIQUID	III	150	203	242	60 L	Forbidden	220 L	A	40						
Dimethylhexane dihydroperoxide (dry)	UN2382	Forbidden	FLAMMABLE LIQUID	III	150	203	242	60 L	Forbidden	220 L	A	40						
Dimethylhydrazine, symmetrical	6.1	6.1	POISON, FLAMMABLE LIQUID	I	None	227	244	Forbidden	Forbidden	Forbidden	D	40						
Dimethylhydrazine, unsymmetrical	UN1163	6.1	POISON, FLAMMABLE LIQUID, CORROSIVE	I	None	227	244	Forbidden	Forbidden	Forbidden	D	21, 38, 40, 100						
2,2-Dimethylpropane	UN2044	2.1	FLAMMABLE GAS	I	306	304	314, 315	Forbidden	Forbidden	150 kg	E	40						
Dimethylzinc	UN1370	4.2	SPONTANEOUSLY COMBUSTIBLE	I	None	181	244	Forbidden	Forbidden	Forbidden	D	18						
Dinitro-o-cresol, solid	UN1598	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitro-p-cresol, solution	UN1598	6.1	POISON	II	None	202	243	5 L	Forbidden	60 L	A	40						
1,3-Dinitro-6,5-dimethyl hydantoin	UN1597	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitro-7,8-dimethylglycol (dry)	UN1597	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
1,3-Dinitro-4,5-dinitrobenzene	UN1597	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
1,4-Dinitro-1,4-tetramethylethylaluminumtrinitrate (dry)	UN1067	2.3	POISON GAS, OXIDIZER, CORROSIVE	I	None	336	314	Forbidden	Forbidden	Forbidden	D	40, 89, 90						
2,4-Dinitro-1,3,5-trimethylbenzene	UN1596	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitroanilines	UN1597	6.1	POISON	II	None	202	243	5 L	Forbidden	60 L	A	40						
Dinitrobenzenes, liquid	UN1597	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitrobenzenes, solid	UN1597	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitrochlorobenzene, see Chlorodinitrobenzene																		
1,2-Dinitroethane	UN1067	2.3	POISON GAS, OXIDIZER, CORROSIVE	I	None	336	314	Forbidden	Forbidden	Forbidden	D	40, 89, 90						
1,1-Dinitroethane (dry)	UN1067	2.3	POISON GAS, OXIDIZER, CORROSIVE	I	None	336	314	Forbidden	Forbidden	Forbidden	D	40, 89, 90						
Dinitrogen tetroxide, liquefied	UN1067	2.3	POISON GAS, OXIDIZER, CORROSIVE	I	None	336	314	Forbidden	Forbidden	Forbidden	D	40, 89, 90						
Dinitroglucitol or Dinglu	UN0489	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dinitroguanidine	UN0076	1.1D	EXPLOSIVE 1.1D, POISON	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dinitrophenol, dry or wetted with less than 15 percent water, by mass	UN1599	6.1	POISON	III	None	202	243	5 L	Forbidden	60 L	A	36						
Dinitrophenol solutions	UN1599	6.1	POISON	III	153	203	241	60 L	Forbidden	220 L	A	36						
Dinitrophenol, wetted with not less than 15 percent water, by mass	UN1320	4.1	KEEP AWAY FROM FOOD	III	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
Dinitrophenolates alkali metals, dry or wetted with less than 15 percent water, by mass	UN0077	1.3C	FLAMMABLE SOLID, EXPLOSIVE 1.3C, POISON	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dinitrophenolates, wetted with not less than 15 percent water, by mass	UN1321	4.1	FLAMMABLE SOLID, POISON	I	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
Dinitropropylene glycol	UN0078	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dinitrosorcinol, dry or wetted with less than 15 percent water, by mass	UN1322	4.1	FLAMMABLE SOLID	I	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
2,4-Dinitrosorcinol (heavy metal salts of) (dry)	UN1322	4.1	FLAMMABLE SOLID	I	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
4,6-Dinitrosorcinol (heavy metal salts of) (dry)	UN1322	4.1	FLAMMABLE SOLID	I	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
Dinitrosorcinol, wetted with not less than 15 percent water, by mass	UN1322	4.1	FLAMMABLE SOLID	I	None	211	None	1 kg	Forbidden	15 kg	E	28, 36						
3,5-Dinitrosalicylic acid (lead salt) (dry)	UN0406	1.3C	EXPLOSIVE 1.3C	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dinitrosobenzene	UN2038	6.1	POISON	II	None	202	243	5 L	Forbidden	60 L	A	40						
Dinitrosobenzylamine and salts of (dry)	UN1600	6.1	POISON	II	None	202	243	Forbidden	Forbidden	100 kg	A	40						
2,2-Dinitrostilbene	UN2038	6.1	POISON	II	None	212	242	25 kg	Forbidden	100 kg	A	40						
Dinitrotoouenes, liquid	UN1165	3	FLAMMABLE LIQUID	II	150	202	242	5 L	Forbidden	60 L	B	40						
Dinitrotoouenes, molten	UN1166	3	FLAMMABLE LIQUID	II	150	202	242	5 L	Forbidden	60 L	B	40						
Dinitrotoouenes, solid	UN2052	3	FLAMMABLE LIQUID	III	150	203	242	60 L	Forbidden	220 L	A	40						
1,9-Dinitroxy pentamethylene-2,4, 6,8-tetramine (dry)	UN1698	6.1	POISON	I	None	201	243	Forbidden	Forbidden	Forbidden	D	40						
Dioxane	UN1699	6.1	POISON	I	None	211	242	Forbidden	Forbidden	15 kg	D	40						
Dipentene	UN1769	8	CORROSIVE	II	None	202	242	Forbidden	Forbidden	30 L	C	40						
Diphenylamine chloroarsine	UN2489	6.1	KEEP AWAY FROM FOOD	III	153	203	241	60 L	Forbidden	220 L	A	48						
Diphenylchloroarsine, liquid	UN1770	8	CORROSIVE	II	154	212	240	15 kg	Forbidden	50 kg	D	40						
Diphenylchloroarsine, solid	UN1770	8	CORROSIVE	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Diphenyldichlorosilane	UN0401	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Diphenylmethane-4,4-dicyanate	UN0401	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Diphenylmethyl bromide	UN0401	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						
Dipicryl sulfide, dry or wetted with less than 10 percent water, by mass	UN0401	1.1D	EXPLOSIVE 1.1D	II	None	62	None	Forbidden	Forbidden	Forbidden	B	1E, 5E						

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.16)			(9) Quantity limitations			(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)	
	Dipicryl sulfide, wetted with not less than 10 percent water, by mass	4.1	UN2852	I	FLAMMABLE SOLID	A2, N41	None	211	None	Forbidden	0.5 kg	D	28	
	Dipicrylamine, see Hexanitrodiphenylamine	Forbidden												
	Dipropyl peroxide, with more than 25 percent in solution	3	UN2364	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B		
	Dipropyl ether	3	UN2710	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A		
	Dipropyl ketone	3	UN2383	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B		
	Dipropylamine	3	UN2383	II	FLAMMABLE LIQUID, CORROSIVE	T8	None	202	243	1 L	5 L	B		
	Disinfectants, liquid, corrosive n.o.s.	8	UN1903	III	CORROSIVE	B2	154	202	242	1 L	30 L	B		
	Disinfectants, liquid, toxic, n.o.s.	6.1	UN3142	III	CORROSIVE	A4, T42	None	201	243	1 L	30 L	A	40	
	Disinfectants, solid, toxic, n.o.s.	6.1	UN1601	III	POISON	T14	None	202	243	5 L	60 L	A	40	
	Disinfectants, solid, toxic, n.o.s.	6.1	UN1601	III	KEEP AWAY FROM FOOD	T7	153	203	241	60 L	220 L	A	40	
	Disodium trioxosulfate, pentahydrate	6.1	UN1601	III	POISON		None	212	242	25 kg	100 kg	A	40	
	Dispersant gases, n.o.s., see Refrigerant gases, n.o.s.						153	213	240	100 kg	200 kg	A	40	
	Dithiocarbamate pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	8	UN3253	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
	Dithiocarbamate pesticides, liquid, toxic	3	UN2772	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	3	UN2772	II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	3	UN2772	III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3006	I	POISON	T42	None	201	243	1 L	30 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3006	II	POISON	T14	None	202	243	5 L	60 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3006	III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3005	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3005	II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40	
	Dithiocarbamate pesticides, liquid, toxic	6.1	UN3005	III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	T14	153	203	242	60 L	220 L	A	40	
	Dithiocarbamate pesticides, solid, toxic	6.1	UN2771	I	POISON		None	211	242	5 kg	50 kg	A	40	
	Dithiocarbamate pesticides, solid, toxic	6.1	UN2771	II	POISON		None	212	242	25 kg	100 kg	A	40	
	Dithiocarbamate pesticides, solid, toxic	6.1	UN2771	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40	
	Divinyl ether, inhibited	3	UN1167	I	FLAMMABLE LIQUID	T14	None	201	243	5 L	60 L	E	40	
	Dodecylbenzenesulfonic acid	8	NA2584	III	CORROSIVE	B2	154	202	242	1 L	30 L	B	9	
	Dodecyltrichlorosilane	8	UN1771	II	CORROSIVE	A7, B2, B6, N34, T8, T26	None	202	242	Forbidden	30 L	C	40	
	Dry ice, see Carbon dioxide, solid													
	Dyes, liquid, corrosive n.o.s. or Dye intermediates, liquid, corrosive, n.o.s.	8	UN2801	II	CORROSIVE	11, B2, T14	154	202	242	1 L	30 L	A		
	Dyes, liquid, toxic, n.o.s. or Dye intermediates, liquid, toxic, n.o.s.	6.1	UN1602	III	POISON	11, T7	154	203	241	5 L	60 L	A		
	Dyes, liquid, toxic, n.o.s. or Dye intermediates, liquid, toxic, n.o.s.	6.1	UN1602	III	KEEP AWAY FROM FOOD		153	203	241	60 L	220	A		
	Dyes, solid, corrosive, n.o.s. or Dye intermediates, solid, corrosive, n.o.s.	8	UN3147	II	CORROSIVE		154	212	240	15 kg	50 kg	A		
	Dyes, solid, toxic, n.o.s. or Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	III	POISON	A5	None	211	242	25 kg	100 kg	A		
	Dyes, solid, toxic, n.o.s. or Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	III	POISON		None	212	242	25 kg	100 kg	A		
	Dyes, solid, toxic, n.o.s. or Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A		
	Dynamite, see Explosive, blasting, type A													
	Electrolyte (acid or alkali) for batteries, see Battery liquid, acid or Battery liquid, alkali													
	Elevated temperature liquid, flammable, n.o.s., with flash point above 37.8 C, at or above its flash point	3	UN3256	III	FLAMMABLE LIQUID	T1	None	None	247	Forbidden	Forbidden	A		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§ 173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railed	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
D	Ethyl phosphorous dichloride, anhydrous pyrophoric liquid	6.1	NA2845	I	POISON, SPONTANEOUSLY COMBUSTIBLE.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	18
D	Ethyl phosphorodichloride	6.1	NA2927	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Ethyl propionate	3	UN1195	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	Ethyl propyl ether	3	UN2615	II	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	
	Ethyl silicate, see Tetraethyl silicate												
	Ethylacetylene, inhibited	2.1	UN2452		FLAMMABLE GAS		None	304	314, 315	Forbidden	150 kg	B	40
	Ethylamine	2.1	UN1036		FLAMMABLE GAS	B77	None	321	314, 315	Forbidden	150 kg	D	40
	Ethylamine, aqueous solution with not less than 50 percent but not more than 70 percent ethylamine	3	UN2270	II	FLAMMABLE LIQUID, CORROSIVE.	T14	None	202	243	1 L	5 L	B	40
	N-Ethylaniline	6.1	UN2272	III	KEEP AWAY FROM FOOD.	T2	153	203	241	60 L	220 L	A	
	2-Ethylaniline	6.1	UN2273	III	KEEP AWAY FROM FOOD.	T2	153	203	241	60 L	220 L	A	
	Ethylbenzene	3	UN1175	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	B	
	N-Ethylbenzyloluidines liquid	6.1	UN2753	III	KEEP AWAY FROM FOOD.	T14	153	203	241	60 L	220 L	A	
	N-Ethylbenzyloluidines solid	6.1	UN2753	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	2-Ethylbutanol	3	UN2275	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	2-Ethylbutyl acetate	3	UN1177	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	2-Ethylbutyraldehyde	3	UN1178	II	FLAMMABLE LIQUID	B1, T1	150	202	242	5 L	60 L	B	
	Ethylchloroarsine	6.1	UN1892	I	POISON	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	40
	Ethylchlorosilane	4.3	UN1183	I	DANGEROUS WHEN WET, CORROSIVE, FLAMMABLE LIQUID.	A2, A3, A7, N34, T18, T26.	None	201	244	Forbidden	1 L	D	21, 28, 40, 49, 100
	Ethylene, acetylene and propylene in mixtures, refrigerated liquid with at least 71.5 percent ethylene with not more than 22.5 percent acetylene and not more than 6 percent propylene	2.1	UN3138	I	FLAMMABLE GAS		None	304	314, 315	Forbidden	Forbidden	D	40
	Ethylene chlorohydrin	6.1	UN1135	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	40
	Ethylene, compressed	2.1	UN1962		FLAMMABLE GAS		306	304	302	Forbidden	150 kg	E	40
	Ethylene diamine dipchlorozate	Forbidden					None	227	244	Forbidden	Forbidden	D	40
	Ethylene dibromide	6.1	UN1605	I	POISON	2, B9, B14, B32, B74, B77, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	40
	Ethylene dibromide and methyl bromide liquid mixtures, see Methyl bromide and ethylene dibromide, liquid mixtures												
	Ethylene dichloride	3	UN1184	II	FLAMMABLE LIQUID, POISON.	T14	None	202	243	1 L	60 L	B	40
	Ethylene glycol diethyl ether	3	UN1153	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethylene glycol dimethyl ether	6.1	UN2369	III	KEEP AWAY FROM FOOD.	T1	153	203	241	60 L	220 L	A	
	Ethylene glycol monobutyl ether	3	UN1171	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethylene glycol monoethyl ether acetate	3	UN1172	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethylene glycol monomethyl ether	3	UN1188	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethylene glycol monomethyl ether acetate	3	UN1189	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ethylene oxide and carbon dioxide mixture with more than 97 percent ethylene oxide	2.3	UN3300		POISON GAS, FLAMMABLE GAS.	4	None	304	314, 315	Forbidden	75 kg	D	40

Chemical Name	UN Number	Classification	Quantity	Labeling	Other	Regulation	Notes
Ethylene oxide, and carbon dioxide mixtures with more than 9 percent but not more than 87 percent ethylene oxide	2.1 UN1041	FLAMMABLE GAS	Forbidden	314, 315	304	B	40
Ethylene oxide and carbon dioxide mixtures with not more than 9 percent ethylene oxide	2.2 UN1952	NONFLAMMABLE GAS	75 kg	314, 315	306	A	
Ethylene oxide and chlorotrifluoroethane mixture with not more than 8.8 percent ethylene oxide	2.2 UN3297	NONFLAMMABLE GAS	75 kg	314, 315	306	A	
Ethylene oxide and dichlorodifluoromethane mixture, with not more than 12.5 percent ethylene oxide	2.2 UN3070	NONFLAMMABLE GAS	75 kg	314, 315	306	A	
Ethylene oxide and pentafluoroethane mixture with not more than 7.9 percent ethylene oxide	2.2 UN3298	NONFLAMMABLE GAS	75 kg	314, 315	306	A	
Ethylene oxide and propylene oxide mixtures, with not more than 30 percent ethylene oxide	3 UN2983	FLAMMABLE LIQUID, POISON	Forbidden	243	None	E	40
Ethylene oxide and tetrafluoroethane mixture with not more than 5.6 percent ethylene oxide	2.2 UN3299	NONFLAMMABLE GAS	75 kg	314, 315	306	A	
Ethylene oxide or Ethylene oxide with nitrogen up to a total pressure of 7MPa (110 bar) at 50 degrees C	2.3 UN1040	POISON GAS, FLAMMABLE GAS	Forbidden	323	None	D	40
Ethylene, refrigerated liquid (cryogenic liquid)	2.1 UN1038	FLAMMABLE GAS	Forbidden	318, 319	None	D	40
Ethylenediamine	8 UN1604	CORROSIVE, FLAMMABLE LIQUID	1 L	243	154	A	40
Ethylenimine, inhibited	6.1 UN1185	POISON, FLAMMABLE LIQUID	Forbidden	244	None	D	40
Ethylhexaldehyde, see Octyl aldehydes etc.							
2-Ethylhexyl chloroformate	6.1 UN2748	POISON, CORROSIVE	1 L	243	None	A	12, 13, 21, 25, 40, 100, 40
2-Ethylhexylamine	3 UN2276	FLAMMABLE LIQUID, CORROSIVE	5 L	242	150	A	
Ethylphenylchlorosilane	8 UN2435	CORROSIVE	Forbidden	242	None	C	
1-Ethylpiperidine	3 UN2386	FLAMMABLE LIQUID, CORROSIVE	1 L	243	None	B	
N-Ethyloludines	6.1 UN2754	POISON	5 L	243	None	A	40
Ethylchlorosilane	3 UN1196	FLAMMABLE LIQUID, CORROSIVE	1 L	243	None	B	
Ethologic agent, see Infectious substances, etc.)							
Explosive articles, see Amicides, explosive, n.o.s., etc.							
Explosive, blasting, type A	1.1D UN0081	EXPLOSIVE 1.1D	Forbidden	None	None	B	1E, 5E, 21E
Explosive, blasting, type B	1.1D UN0082	EXPLOSIVE 1.1D	Forbidden	None	None	B	1E, 5E
Explosive, blasting, type B or Agent blasting, Type B	1.5D UN0031	EXPLOSIVE 1.5D	Forbidden	None	None	B	1E, 5E
Explosive, blasting, type C	1.1D UN0083	EXPLOSIVE 1.1D	Forbidden	None	None	B	1E, 5E
Explosive, blasting, type D	1.1D UN0084	EXPLOSIVE 1.1D	Forbidden	None	None	B	1E, 5E, 19E
Explosive, blasting, type E	1.1D UN0241	EXPLOSIVE 1.1D	Forbidden	None	None	B	1E, 5E, 19E
Explosive, blasting, type E or Agent blasting, Type E	1.5D UN0332	EXPLOSIVE 1.5D	Forbidden	None	None	B	1E, 5E, 19E
Explosive, forbidden; See Sec. 173.54							
Explosive pest control devices	1.1E NA0006	EXPLOSIVE 1.1E	Forbidden	None	None	E	24E
Explosive pest control devices	1.4E NA0412	EXPLOSIVE 1.4E	Forbidden	None	None	A	
Explosive substances, see Substances, explosive, n.o.s., etc.							
Explosives, slurry, see Explosive, blasting, type E							
Explosives, water gels, see Explosive, blasting, type E							
Extracts, aromatic, liquid	3 UN1169	FLAMMABLE LIQUID	5 L	242	150	B	
Extracts, flavoring, liquid	3 UN1197	FLAMMABLE LIQUID	60 L	242	150	B	
Fabric with animal or vegetable oil, see Fibers or fabrics, etc.							
Ferric arsenate	6.1 UN1606	POISON	242	242	212	A	
Ferric arsenite	6.1 UN1607	POISON	242	242	212	A	
Ferric chloride, anhydrous	8 UN1773	CORROSIVE	240	240	213	A	
Ferric chloride, solution	8 UN2582	CORROSIVE	241	241	203	A	
Ferric nitrate	5.1 UN1466	OXIDIZER	240	240	152	A	
Ferrocenium	4.1 UN1323	FLAMMABLE SOLID	240	240	151	A	
Ferrosilicon, with 30 percent or more but less than 90 percent silicon	4.3 UN1408	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD, POISON	240	240	213	A	13, 40, 85, 103
Ferrous arsenate	6.1 UN1608	POISON	242	242	212	A	
Ferrous chloride, solid	8 NA1759	CORROSIVE	240	240	154	A	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

Sym-bols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identifi-cation Num-bers (4)	Pack-ing group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	Packaging authorizations (§173.***) (8)			Quantity limitations (9)		Vessel stowage re-quirements (10)		
							Excep-tions (9A)	Non-bulk pack-aging (8B)	Bulk pack-aging (8C)	Passenger aircraft or railcar (9A)	Cargo air-craft only (9B)	Vessel stow-age (10A)	Other stow-age provi-sions (10B)	
D	Ferrous chloride, solution Ferrous metal borings or Ferrous metal shavings or Ferrous metal turnings or Ferrous metal cuttings in a form liable to self-heating	8	NA1780	II	CORROSIVE	B3	154	202	242	1 L	30 L	B	40	
		4.2	UN2793	III	SPONTANEOUSLY COMBUSTIBLE, NONFLAMMABLE GAS	A1, A19, B101	None	213	241	25 kg	100 kg	A	40	
AIW	Fertilizer ammoniating solution with free ammonia Fibers or Fabrics, animal or vegetable or Synthetic, n.o.s. with animal or vegetable oil Fibers or Fabrics impregnated with weakly nitrated nitrocellulose, n.o.s. Films, nitrocellulose base, from which gelatine has been removed; film scrap, see Celluloid scrap Films, nitrocellulose base, gelatine coated (except scrap) Fire extinguisher charges, corrosive liquid Fire extinguisher charges, expelling, explosive, see Cartridges, power de-vice Fire extinguishers containing compressed or liquefied gas Fire extinguishers, solid with flammable liquid Fireworks Fireworks Fireworks Fireworks Fish meal, stabilized or Fish scrap, stabilized Fish meal, unstabilized or Fish scrap, unstabilized Fissile radioactive materials, see Radioactive material, fissile, n.o.s. Flammable compressed gas, see Compressed or Liquefied gas, flam-mable, etc. Flammable compressed gas (small receptacles not fitted with a dispersion device, not refillable), see Receptacles, etc. Flammable gas in lighters, see Lighters or lighter refills, containing flam-mable gas Flammable liquid, toxic, corrosive, n.o.s.	2.2	UN1043	III	SPONTANEOUSLY COMBUSTIBLE, FLAMMABLE SOLID	A1	306	304	314, 315	Forbidden	150 kg	E	40	
		4.2	UN1373	III	SPONTANEOUSLY COMBUSTIBLE, FLAMMABLE SOLID	A1	None	213	241	Forbidden	Forbidden	A	40	
		4.1	UN1353	III	SPONTANEOUSLY COMBUSTIBLE, FLAMMABLE SOLID	A1	None	None	213	240	25 kg	100 kg	D	91
		4.1	UN1324	III	FLAMMABLE SOLID	N41	None	183	202	None	25 kg	100 kg	D	91
		8	UN1774	II	CORROSIVE	N41	None	154	202	None	1 L	30 L	A	40
		2.2	UN1044	III	NONFLAMMABLE GAS	A19	None	309	309	None	75 kg	150 kg	A	119
		4.1	UN2623	III	FLAMMABLE SOLID	A1, A19	None	None	212	None	15 kg	50 kg	A	119
		1.1G	UN0333	III	EXPLOSIVE 1.1G	108	None	None	213	None	100 kg	Forbidden	A	119
		1.2G	UN0334	III	EXPLOSIVE 1.2G	108	None	None	62	None	Forbidden	Forbidden	B	24E
		1.3G	UN0335	III	EXPLOSIVE 1.3G	108	None	None	62	None	Forbidden	Forbidden	B	24E
W	Flammable gas in lighters, see Lighters or lighter refills, containing flam-mable gas Flammable liquid, toxic, corrosive, n.o.s. Flammable liquids, corrosive, n.o.s. Flammable liquids, toxic, n.o.s. Flammable liquids, n.o.s. Flammable liquids, toxic, n.o.s.	1.4G	UN0336	III	EXPLOSIVE 1.4G	108	None	62	None	Forbidden	Forbidden	B	24E	
		1.4S	UN0337	III	EXPLOSIVE 1.4S	108	None	62	None	Forbidden	Forbidden	B	24E	
		9	UN2216	III	None	108	None	155	218	No limit	100 kg	A	88	
		4.2	UN1374	III	SPONTANEOUSLY COMBUSTIBLE	A1, A19	None	212	241	15 kg	No limit	50 kg	A	119, 120
		3	UN3286	I	FLAMMABLE LIQUID, POISON, CORROSIVE	T14	None	201	243	243	Forbidden	2.5 L	E	21, 40, 100
		3	UN2924	I	FLAMMABLE LIQUID, CORROSIVE	T42	None	202	243	243	1 L	5 L	B	21, 40, 100
		3	UN1993	III	FLAMMABLE LIQUID, CORROSIVE	T15, T26	None	201	243	243	0.5 L	2.5 L	E	40
		3	UN1992	III	FLAMMABLE LIQUID, CORROSIVE	B1, T15, T26	None	202	243	243	1 L	5 L	B	40
		3	UN1993	III	FLAMMABLE LIQUID, CORROSIVE	B1, T15, T26	None	150	203	242	5 L	60 L	A	40
		3	UN1992	III	FLAMMABLE LIQUID, CORROSIVE	T42	None	150	201	243	1 L	30 L	E	40
AIW	Flammable solid, corrosive, inorganic, n.o.s. Flammable solid, inorganic, n.o.s. Flammable solid, organic, molten, n.o.s.	4.1	UN3160	III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1, T18	None	203	242	60 L	220 L	A	40	
		4.1	UN3178	III	FLAMMABLE SOLID, CORROSIVE	A1, B106	151	212	242	15 kg	50 kg	D	40	
		4.1	UN3176	III	FLAMMABLE SOLID, CORROSIVE	A1, B106	151	213	242	25 kg	100 kg	D	40	
		4.1	UN3175	III	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	B	40	
		4.1	UN3176	III	FLAMMABLE SOLID	T9	151	213	240	25 kg	100 kg	B	40	
		4.1	UN3175	III	FLAMMABLE SOLID	T9	151	212	240	Forbidden	Forbidden	C	40	
		4.1	UN3176	III	FLAMMABLE SOLID	T9	151	213	240	Forbidden	Forbidden	C	40	
		4.1	UN3175	III	FLAMMABLE SOLID	T9	151	212	240	Forbidden	Forbidden	C	40	
		4.1	UN3176	III	FLAMMABLE SOLID	T9	151	213	240	Forbidden	Forbidden	C	40	
		4.1	UN3175	III	FLAMMABLE SOLID	T9	151	212	240	Forbidden	Forbidden	C	40	

Flammable solid, toxic, inorganic, n.o.s.	UN3179	4.1	II	FLAMMABLE SOLID, POISON.	A1, B106	151	212	242	15 kg	50 kg	B	40
Flammable solid, toxic, organic, n.o.s. <td>UN2325</td> <td>4.1</td> <td>III</td> <td>FLAMMABLE SOLID, KEEP AWAY FROM FOOD. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>B</td> <td>40</td> </td>	UN2325	4.1	III	FLAMMABLE SOLID, KEEP AWAY FROM FOOD. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>B</td> <td>40</td>	A1, B106	151	213	242	25 kg	100 kg	B	40
Flammable solids, corrosive, organic, n.o.s. <td>UN2325</td> <td>4.1</td> <td>II</td> <td>FLAMMABLE SOLID, CORROSIVE. <td>A1, B106</td> <td>None</td> <td>212</td> <td>242</td> <td>15 kg</td> <td>50 kg</td> <td>D</td> <td>40</td> </td>	UN2325	4.1	II	FLAMMABLE SOLID, CORROSIVE. <td>A1, B106</td> <td>None</td> <td>212</td> <td>242</td> <td>15 kg</td> <td>50 kg</td> <td>D</td> <td>40</td>	A1, B106	None	212	242	15 kg	50 kg	D	40
Flammable solids, organic, n.o.s. <td>UN1325</td> <td>4.1</td> <td>III</td> <td>FLAMMABLE SOLID, CORROSIVE. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>D</td> <td>40</td> </td>	UN1325	4.1	III	FLAMMABLE SOLID, CORROSIVE. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>D</td> <td>40</td>	A1, B106	151	213	242	25 kg	100 kg	D	40
Flammable solids, toxic, organic, n.o.s. <td>UN2326</td> <td>4.1</td> <td>II</td> <td>FLAMMABLE SOLID, POISON. <td>A1, B106</td> <td>None</td> <td>212</td> <td>242</td> <td>15 kg</td> <td>50 kg</td> <td>B</td> <td>40</td> </td>	UN2326	4.1	II	FLAMMABLE SOLID, POISON. <td>A1, B106</td> <td>None</td> <td>212</td> <td>242</td> <td>15 kg</td> <td>50 kg</td> <td>B</td> <td>40</td>	A1, B106	None	212	242	15 kg	50 kg	B	40
Flammable solids, toxic, organic, n.o.s. <td>UN2326</td> <td>4.1</td> <td>III</td> <td>FLAMMABLE SOLID, KEEP AWAY FROM FOOD. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>B</td> <td>40</td> </td>	UN2326	4.1	III	FLAMMABLE SOLID, KEEP AWAY FROM FOOD. <td>A1, B106</td> <td>151</td> <td>213</td> <td>242</td> <td>25 kg</td> <td>100 kg</td> <td>B</td> <td>40</td>	A1, B106	151	213	242	25 kg	100 kg	B	40
Flares, aerial	UN0093	1.3G	II	EXPLOSIVE 1.3G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>75 kg</td> <td>B</td> <td>24E</td>		None	62	None	Forbidden	75 kg	B	24E
Flares, aerial	UN0403	1.4G	II	EXPLOSIVE 1.4G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>75 kg</td> <td>A</td> <td></td>		None	62	None	Forbidden	75 kg	A	
Flares, aerial	UN0404	1.4S	II	EXPLOSIVE 1.4S <td></td> <td>None</td> <td>62</td> <td>None</td> <td>25 kg</td> <td>100 kg</td> <td>A</td> <td></td>		None	62	None	25 kg	100 kg	A	
Flares, aerial	UN0420	1.1G	II	EXPLOSIVE 1.1G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>B</td> <td></td>		None	62	None	Forbidden	Forbidden	B	
Flares, aerial	UN0421	1.2G	II	EXPLOSIVE 1.2G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>B</td> <td></td>		None	62	None	Forbidden	Forbidden	B	
Flares, airplane, see Flares, aerial												
Flares, signal, see Cartridges, signal												
Flares, surface	UN0092	1.3G	II	EXPLOSIVE 1.3G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>75 kg</td> <td>B</td> <td></td>		None	62	None	Forbidden	75 kg	B	
Flares, surface	UN0418	1.1G	II	EXPLOSIVE 1.1G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>B</td> <td></td>		None	62	None	Forbidden	Forbidden	B	
Flares, surface	UN0419	1.2G	II	EXPLOSIVE 1.2G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>B</td> <td></td>		None	62	None	Forbidden	Forbidden	B	
Flares, water-activated, see Contrivances, water-activated, etc.												
Flash powder	UN0094	1.1G	II	EXPLOSIVE 1.1G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>E</td> <td>1E, 5E</td>		None	62	None	Forbidden	Forbidden	E	1E, 5E
Flash powder	UN0305	1.3G	II	EXPLOSIVE 1.3G <td></td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>E</td> <td>1E, 5E</td>		None	62	None	Forbidden	Forbidden	E	1E, 5E
Flue dusts, poisonous, see Arsenical dust												
Fluoric acid, see Hydrofluoric acid, solution, etc.												
Fluorine, compressed	UN1045	2.3	II	POISON GAS, OXIDIZER, CORROSIVE. <td>1</td> <td>None</td> <td>302</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>D</td> <td>40, 89, 90</td>	1	None	302	None	Forbidden	Forbidden	D	40, 89, 90
Fluoroacetic acid	UN2642	6.1	I	POISON <td>B100</td> <td>None</td> <td>211</td> <td>242</td> <td>1 kg</td> <td>15 kg</td> <td>E</td> <td></td>	B100	None	211	242	1 kg	15 kg	E	
Fluoroanilines	UN2941	6.1	III	KEEP AWAY FROM FOOD. <td>T8</td> <td>153</td> <td>203</td> <td>241</td> <td>60 L</td> <td>220 L</td> <td>A</td> <td></td>	T8	153	203	241	60 L	220 L	A	
Fluorobenzene	UN2387	3	II	FLAMMABLE LIQUID <td>B101, T8</td> <td>150</td> <td>202</td> <td>242</td> <td>5 L</td> <td>60 L</td> <td>B</td> <td></td>	B101, T8	150	202	242	5 L	60 L	B	
Fluoroboric acid	UN1775	8	II	CORROSIVE <td>A6, A7, B2, B15, N3, N34, T15, T27.</td> <td>154</td> <td>202</td> <td>242</td> <td>1 L</td> <td>30 L</td> <td>A</td> <td></td>	A6, A7, B2, B15, N3, N34, T15, T27.	154	202	242	1 L	30 L	A	
Fluorophosphoric acid anhydrous	UN1776	8	II	CORROSIVE <td>A6, A7, B2, N3, N34, T9, T27.</td> <td>None</td> <td>202</td> <td>242</td> <td>1 L</td> <td>30 L</td> <td>A</td> <td></td>	A6, A7, B2, N3, N34, T9, T27.	None	202	242	1 L	30 L	A	
Fluorosilicates, n.o.s.	UN2856	6.1	III	KEEP AWAY FROM FOOD. <td></td> <td>153</td> <td>213</td> <td>240</td> <td>100 kg</td> <td>200 kg</td> <td>A</td> <td>26</td>		153	213	240	100 kg	200 kg	A	26
Fluorosilicic acid	UN1778	8	II	CORROSIVE <td>A6, A7, B2, B15, N3, N34, T12, T27.</td> <td>None</td> <td>202</td> <td>242</td> <td>1 L</td> <td>30 L</td> <td>A</td> <td></td>	A6, A7, B2, B15, N3, N34, T12, T27.	None	202	242	1 L	30 L	A	
Fluorosulfonic acid	UN1777	8	I	CORROSIVE <td>A3, A6, A7, A10, B6, B10, B41, N3, T9, T27.</td> <td>None</td> <td>201</td> <td>243</td> <td>0.5 L</td> <td>2.5 L</td> <td>D</td> <td>40</td>	A3, A6, A7, A10, B6, B10, B41, N3, T9, T27.	None	201	243	0.5 L	2.5 L	D	40
Fluorotoluenes	UN2388	3	II	FLAMMABLE LIQUID <td>T8</td> <td>150</td> <td>202</td> <td>242</td> <td>5 L</td> <td>60 L</td> <td>B</td> <td>40</td>	T8	150	202	242	5 L	60 L	B	40
Forbidden materials. See 173.21												
Formaldehyde, solutions, flammable	UN1198	3	III	FLAMMABLE LIQUID, CORROSIVE. <td>B1, T8</td> <td>150</td> <td>203</td> <td>242</td> <td>5 L</td> <td>60 L</td> <td>A</td> <td>40</td>	B1, T8	150	203	242	5 L	60 L	A	40
Formaldehyde, solutions, with not less than 25 percent formaldehyde	UN2209	8	III	CORROSIVE <td>T1</td> <td>154</td> <td>203</td> <td>241</td> <td>5 L</td> <td>60 L</td> <td>A</td> <td></td>	T1	154	203	241	5 L	60 L	A	
Formalin, see Formaldehyde, solutions												
Formic acid	UN1779	8	II	CORROSIVE <td>B2, B12, B28, T8</td> <td>154</td> <td>202</td> <td>242</td> <td>1 L</td> <td>30 L</td> <td>A</td> <td>40</td>	B2, B12, B28, T8	154	202	242	1 L	30 L	A	40
Formic acid	UN0099	1.1D	II	EXPLOSIVE 1.1D <td>T7</td> <td>None</td> <td>62</td> <td>None</td> <td>Forbidden</td> <td>Forbidden</td> <td>B</td> <td></td>	T7	None	62	None	Forbidden	Forbidden	B	
Fracturing devices, explosive, without detonators for oil wells	UN1863	3	I	FLAMMABLE LIQUID <td>T1</td> <td>150</td> <td>201</td> <td>243</td> <td>1 L</td> <td>30 L</td> <td>E</td> <td></td>	T1	150	201	243	1 L	30 L	E	
Fuel, aviation, turbine engine	UN1863	3	II	FLAMMABLE LIQUID <td>T1</td> <td>150</td> <td>202</td> <td>242</td> <td>5 L</td> <td>60 L</td> <td>B</td> <td></td>	T1	150	202	242	5 L	60 L	B	
Fuel oil (No. 1, 2, 4, 5, or 6)	NA1993	3	III	FLAMMABLE LIQUID <td>B1, T1</td> <td>150</td> <td>203</td> <td>242</td> <td>60 L</td> <td>220 L</td> <td>A</td> <td></td>	B1, T1	150	203	242	60 L	220 L	A	
Fulminate of mercury (dry)		Forbidden	III	FLAMMABLE LIQUID <td>B1</td> <td>150</td> <td>203</td> <td>242</td> <td>60 L</td> <td>220 L</td> <td>A</td> <td></td>	B1	150	203	242	60 L	220 L	A	
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	UN1780	8	III	CORROSIVE <td>B2, T8, T26</td> <td>154</td> <td>202</td> <td>242</td> <td>1 L</td> <td>30 L</td> <td>C</td> <td>8, 40</td>	B2, T8, T26	154	202	242	1 L	30 L	C	8, 40
Furan	UN2389	3	I	FLAMMABLE LIQUID <td>T18</td> <td>None</td> <td>201</td> <td>243</td> <td>1 L</td> <td>30 L</td> <td>E</td> <td>40</td>	T18	None	201	243	1 L	30 L	E	40
Furfural	UN1199	3	III	FLAMMABLE LIQUID <td>B1, T1</td> <td>150</td> <td>203</td> <td>242</td> <td>60 L</td> <td>220 L</td> <td>A</td> <td></td>	B1, T1	150	203	242	60 L	220 L	A	
Furfuryl alcohol	UN2874	6.1	III	KEEP AWAY FROM FOOD. <td>T2</td> <td>153</td> <td>203</td> <td>241</td> <td>60 L</td> <td>220 L</td> <td>A</td> <td>26, 74</td>	T2	153	203	241	60 L	220 L	A	26, 74
Furfurylamine	UN2526	3	III	FLAMMABLE LIQUID, CORROSIVE. <td>B1, T1</td> <td>150</td> <td>203</td> <td>242</td> <td>5 L</td> <td>60 L</td> <td>A</td> <td>40</td>	B1, T1	150	203	242	5 L	60 L	A	40
Fuse, detonating, metal clad, see Cord, detonating, metal clad												

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Chemical Name	UN Number	Class	Substance	Quantity	Label	Code	Notes
Guandine nitrate	UN1467	5.1	Forbidden	A1	152	213	240
Guanyl nitrosaminoguanylidene hydrazine (dry)	UN0113	1.1A	Forbidden	111, 117	None	62	None
Guanyl nitrosaminoguanylidene hydrazine, wetted with not less than 30 percent water, by mass	UN0114	1.1A	Forbidden	111, 117	None	62	None
Guanyl nitrosaminoguanylidene hydrazine, wetted with not less than 30 percent water or mixture of alcohol and water, by mass	UN2545	4.2		B100	None	211	242
Gunpowder, compressed or Gunpowder in pellets, see Black powder (UN 0028)				A19, A20, B100, N34, B100	None	212	241
Gunpowder, granular or as a meal, see Black powder (UN 0027)				B100	None	213	241
Hamium powder, dry				A6, A19, A20, N34, T42, T14, T14	None	212	241
Hamium 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 640 microns	UN1326	4.1		A6, A19, A20, N34, T42, T14, T14	None	212	241
Halogenated irradiating liquids, n.o.s.	UN1610	6.1		A6, A19, A20, N34, T42, T14, T14	None	201	243
Hand signal device, see Signal devices, hand				A6, A19, A20, N34, T42, T14, T14	None	202	243
Hazardous substances, liquid or solid, n.o.s., see Environmentally hazardous substances, etc.				A6, A19, A20, N34, T42, T14, T14	None	203	241
Hazardous waste, liquid, n.o.s.	NA3082	9		A6, A19, A20, N34, T42, T14, T14	155	203	241
Hazardous waste, solid, n.o.s.	NA3077	9		A6, A19, A20, N34, T42, T14, T14	155	213	240
Helium, compressed	UN1046	2.2		A6, A19, A20, N34, T42, T14, T14	306	302	314
Helium-oxygen mixture, see Rare gases and oxygen mixtures				A6, A19, A20, N34, T42, T14, T14			
Helium, refrigerated liquid (cryogenic liquid)	UN1963	2.2		A6, A19, A20, N34, T42, T14, T14	320	316	318
Heptachloropropane	UN3296	2.2		A6, A19, A20, N34, T42, T14, T14	306	304	314, 75 kg
n-Heptaldehyde	UN3056	3		A6, A19, A20, N34, T42, T14, T14	150	203	242
Heptanes	UN1206	3		A6, A19, A20, N34, T42, T14, T14	150	202	242
n-Heptene	UN2278	3		A6, A19, A20, N34, T42, T14, T14	150	202	242
Hexachloroacetone	UN2661	6.1		A6, A19, A20, N34, T42, T14, T14	153	203	241
Hexachlorobenzene	UN2729	6.1		A6, A19, A20, N34, T42, T14, T14	153	203	241
Hexachlorobutadiene	UN2273	6.1		A6, A19, A20, N34, T42, T14, T14	153	203	241
Hexachlorocyclopentadiene	UN2646	6.1		A6, A19, A20, N34, T42, T14, T14	None	227	244
Hexachlorophene	UN2875	6.1		A6, A19, A20, N34, T42, T14, T14	153	213	240
Hexadecyltrichlorosilane	UN1781	8		A6, A19, A20, N34, T42, T14, T14	None	202	242
Hexadienes	UN2458	3		A6, A19, A20, N34, T42, T14, T14	None	202	242
Hexaethyl tetraphosphate and compressed gas mixtures	UN1612	2.3		A6, A19, A20, N34, T42, T14, T14	None	334	None
Hexaethyl tetraphosphate liquid	UN1611	6.1		A6, A19, A20, N34, T42, T14, T14	None	201	243
Hexaethyl tetraphosphate, solid	UN1611	6.1		A6, A19, A20, N34, T42, T14, T14	None	202	243
Hexafluoroacetone	UN2420	2.3		A6, A19, A20, N34, T42, T14, T14	None	211	242
Hexafluoroacetone hydrate	UN2552	6.1		A6, A19, A20, N34, T42, T14, T14	None	212	242
Hexafluoroethane, R116	UN2193	2.2		A6, A19, A20, N34, T42, T14, T14	153	213	240
Hexafluorophosphoric acid	UN1782	8		A6, A19, A20, N34, T42, T14, T14	None	304	314, 75 kg
Hexafluoropropylene oxide	NA1956	2.2		A6, A19, A20, N34, T42, T14, T14	306	304	314, 75 kg
Hexafluoropropylene, R1216	UN1858	2.2		A6, A19, A20, N34, T42, T14, T14	306	304	314, 75 kg
Hexaldehyde	UN1207	3		A6, A19, A20, N34, T42, T14, T14	150	203	242
Hexamethylene diisocyanate	UN2281	6.1		A6, A19, A20, N34, T42, T14, T14	None	202	243
Hexamethylene triperoxide diamine (dry)		Forbidden		A6, A19, A20, N34, T42, T14, T14	None	202	243

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or di- vision	(4) Identi- fication num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging (973...)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railcar	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
	Hexamethylenediamine, solid	8	UN2280	III	CORROSIVE		154	213	240	25 kg	100 kg	A	12
	Hexamethylenediamine solution	8	UN1783	III	CORROSIVE	T8	None	202	242	1 L	30 L	A	
	Hexamethylenimine	3	UN2493	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	Hexamethylenimine				FLAMMABLE LIQUID,	B101, T8	None	202	243	1 L	5 L	B	40
	Hexamethylenimine				CORROSIVE	A1	151	213	240	25 kg	100 kg	A	
	Hexamethyltetraimine	Forbidden	UN1328	III	FLAMMABLE SOLID		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Hexamethylol benzene hexanilate	Forbidden	UN1208	II	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	
	Hexanes	3	UN2208	III	FLAMMABLE LIQUID		None	62	None	Forbidden	Forbidden	B	1E, 5E
	2,2,4,4,6,6-Hexanitro-3,3-dihydroxyazobenzene (dry)	Forbidden	UN0079	II	EXPLOSIVE 1.1D		None	None	None	Forbidden	Forbidden	B	
	Hexanitroazoxy benzene	Forbidden	UN0392	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	N,N-(hexanitrodiphenyl) ethylene dinitramine (dry)	Forbidden	UN2282	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	N,N-(hexanitrodiphenyl) ethylene dinitramine	Forbidden	UN2370	II	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	
	Hexanitrodiphenyl urea	Forbidden					None	None	None	Forbidden	Forbidden	B	
	2,2',3',4',6'-Hexanitrodiphenylamine	1.1D			EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Hexanitrodiphenylamine, or Dipocylamine or Hexyl	Forbidden					None	62	None	Forbidden	Forbidden	B	
	2,3,4,4',6'-Hexanitrodiphenyl ether	Forbidden					None	None	None	Forbidden	Forbidden	B	
	Hexanitroethane	Forbidden					None	None	None	Forbidden	Forbidden	B	
	Hexanitrooxalide	Forbidden					None	62	None	Forbidden	Forbidden	B	
	Hexanitrosilbene	1.1D			EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Hexanoic acid, see Corrosive liquids, n.o.s.												
	Hexanol	3	UN2292	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	1-Hexene	3	UN2370	II	FLAMMABLE LIQUID	B101, T8	150	202	242	5 L	60 L	E	
	Hexogen and cyclotetrahydroxytetraaminium mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Hexogen and HMX mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Hexogen and octogen mixtures, wetted or desensitized see RDX and HMX mixtures, wetted or desensitized etc.												
	Hexogen, see Cyclohexamethylenetrinitramine, etc.												
	Hexollite, or Hexocot dry or wetted with less than 15 percent water, by mass												
	Hexonal	1.1D	UN0118	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Hexyl, see Hexamitrodiphenylamine	1.1D	UN0393	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Hexylchlorosilane	8	UN1784	II	CORROSIVE	A7, B2, B6, N34, T8, T26	None	202	242	Forbidden	30 L	C	40
	High explosives, see individual explosives' entries												
	HMX, see Cyclotetrahydroxytetraaminium, etc.												
	Hydrazine, anhydrous or Hydrazine aqueous solutions with more than 64 percent hydrazine, by mass		UN2029	I	CORROSIVE, FLAMMABLE LIQUID, POISON,	A3, A6, A7, A10, B16, B53, T26	None	201	243	Forbidden	2.5 L	D	21, 40, 42, 100
	Hydrazine, aqueous solution with not more than 37 percent hydrazine, by mass	6.1	UN3293	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	
	Hydrazine azide	Forbidden											
	Hydrazine chloride	Forbidden											
	Hydrazine dicarbonic acid diazide	Forbidden											
	Hydrazine hydrate or Hydrazine aqueous solutions, with not less than 37 percent but not more than 64 percent hydrazine, by mass	8	UN2030	II	CORROSIVE, POISON	B16, B53, B110, T15	None	202	243	Forbidden	30 L	D	40, 42, 82
	Hydrazine perchlorate	Forbidden											
	Hydrazine selenate	Forbidden											
	Hydroiodic acid, anhydrous, see Hydrogen iodide, anhydrous												
	Hydroiodic acid, solution	8	UN1787	II	CORROSIVE	A3, A6, B2, N41, T8, T27	154	202	242	1 L	30 L	C	8
	Hydrobromic acid, anhydrous, see Hydrogen bromide, anhydrous												
	Hydrobromic acid solution, with more than 49 percent hydrobromic acid	8	UN1788	II	CORROSIVE	B2, B15, N41, T9, T27	154	202	242	Forbidden	Forbidden	C	8
	Hydrobromic acid solution, with not more than 49 percent hydrobromic acid	8	UN1788	III	CORROSIVE	T8, T26	154	203	241	Forbidden	Forbidden	C	8
							154	202	242	1 L	30 L	C	8
							154	202	242	1 L	30 L	C	8
							154	202	242	1 L	30 L	C	8
							154	202	242	1 L	30 L	C	8
							154	202	242	1 L	30 L	C	8
							154	203	241	5 L	30 L	C	8
							154	203	241	5 L	30 L	C	8
							154	203	241	5 L	30 L	C	8
							154	203	241	5 L	30 L	C	8

Hydrocarbon gases, compressed, n.o.s., or Hydrocarbon gases mixtures, compressed, n.o.s.	2.1	UN1964	FLAMMABLE GAS		306	302	314, 315	Forbidden	150 kg	E	40
Hydrocarbon gases, liquefied, n.o.s., or Hydrocarbon gases mixtures, liquefied, n.o.s.	2.1 <td>UN1965 <td>FLAMMABLE GAS</td> <td></td> <td>306 <td>304 <td>314, 315 <td>Forbidden</td> <td>150 kg</td> <td>E</td> <td>40</td> </td></td></td></td>	UN1965 <td>FLAMMABLE GAS</td> <td></td> <td>306 <td>304 <td>314, 315 <td>Forbidden</td> <td>150 kg</td> <td>E</td> <td>40</td> </td></td></td>	FLAMMABLE GAS		306 <td>304 <td>314, 315 <td>Forbidden</td> <td>150 kg</td> <td>E</td> <td>40</td> </td></td>	304 <td>314, 315 <td>Forbidden</td> <td>150 kg</td> <td>E</td> <td>40</td> </td>	314, 315 <td>Forbidden</td> <td>150 kg</td> <td>E</td> <td>40</td>	Forbidden	150 kg	E	40
Hydrocarbons, liquid, n.o.s.	3	UN3295	I FLAMMABLE LIQUID II FLAMMABLE LIQUID III FLAMMABLE LIQUID	T8, T31 T8, T31 B1, T7, T30	150 150 150	201 202 203	243 242 242	1 L 5 L 60 L	30 L 60 L 220 L	E B A	
Hydrochloric acid, anhydrous, see Hydrogen chloride, anhydrous		UN1789	II CORROSIVE	A3, A6, B3, B15, N41, T9, T27	154	202	242	1 L	30 L	C	
Hydrochloric acid, solution			III CORROSIVE	T8, T26	154	203	241	5 L	60 L	C	8
Hydrocyanic acid, anhydrous, see Hydrogen cyanide etc.			I POISON	2, B12, B61, B65, B77, B82	None	195	244	Forbidden	Forbidden	D	40
Hydrocyanic acid, aqueous solutions, or Hydrogen cyanide, aqueous solutions with not more than 20 percent hydrogen cyanide acid	6.1	UN1613	II POISON	B12, T18, T26	None	195	243	Forbidden	5 L	D	40
Hydrocyanic acid, liquefied, see Hydrogen cyanide, etc.		NA1613									
Hydrofluoric acid (anhydrous), unstabilized	Forbidden	UN1786	I CORROSIVE, POISON	A5, A7, B15, B23, N5, N34, T18, T27	None	201	243	Forbidden	2.5 L	D	40, 95
Hydrofluoric acid and Sulfuric acid mixtures	8		I CORROSIVE, POISON	A6, A7, B4, B12, B15, B23, N5, N34, T18, T27	None	201	243	0.5 L	2.5 L	D	12, 40
Hydrofluoric acid, anhydrous, see Hydrogen fluoride, anhydrous		UN1790									
Hydrofluoric acid, solution, with more than 60 percent strength	8	UN1790	II CORROSIVE, POISON		None	202	243	1 L	30 L	D	12, 40
Hydrofluoric acid, solution, with not more than 60 percent strength											
Hydrofluoroboric acid, see Fluoboric acid											
Hydrofluorosilicic acid, see Fluorosilicic acid											
Hydrogen and Methane mixtures, compressed	2.1	UN2034	FLAMMABLE GAS		306	302	302, 314, 315	Forbidden	150 kg	E	40
Hydrogen bromide, anhydrous	2.3	UN1048	POISON GAS, CORROSIVE	3, B14	None	304	314, 315	Forbidden	25 kg	D	40
Hydrogen chloride, anhydrous	2.3	UN1050	POISON GAS, CORROSIVE	3	None	304	None	Forbidden	Forbidden	D	40
Hydrogen chloride, refrigerated liquid	2.3	UN2185	POISON GAS, CORROSIVE	3, B5, B43	None	None	314, 315	Forbidden	Forbidden	B	40
Hydrogen, compressed	2.1	UN1049	FLAMMABLE GAS		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 POISON, FLAMMABLE LIQUID	T18, T26	None	201	243	Forbidden	Forbidden	D	40
Hydrogen cyanide, stabilized with less than 3 percent water	6.1	UN1051	POISON, FLAMMABLE LIQUID	1, B12, 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	POISON	5	None	195	None	Forbidden	Forbidden	D	25, 40
Hydrogen fluoride, anhydrous	8	UN1052	I CORROSIVE, POISON	3, B7, B12, B46, B71, B77, T24, T27	None	163	243	Forbidden	Forbidden	D	40
Hydrogen iodide, anhydrous	2.3	UN2197	POISON GAS	3, 25, B14	None	304	314, 315	Forbidden	Forbidden	D	40
Hydrogen iodide solution, see Hydroiodic acid, solution											
Hydrogen peroxide and peroxyacetic acid mixtures, stabilized with acids, water and not more than 5 percent peroxyacetic acid	5.1	UN3149	II OXIDIZER, CORROSIVE	A2, A3, A6, B12, B53, B104, B110, T14	None	202	243	1 L	5 L	D	25, 66, 75, 106
Hydrogen peroxide, aqueous solutions, with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary)	5.1	UN2014	II OXIDIZER, CORROSIVE	12, A3, A6, B12, B53, B80, B81, B85, B104, B110, T14, T37	None	202	243	Forbidden	Forbidden	D	25, 66, 75, 106
Hydrogen peroxide, aqueous solutions with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary)	5.1	UN2984	III OXIDIZER	17, A1, B104, T8, T37	152	203	241	2.5 L	30 L	B	25, 75, 106
Hydrogen peroxide, aqueous solutions with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)	5.1	UN2014	II OXIDIZER, CORROSIVE	A2, A3, A6, B12, B53, B104, B110, T14, T37	None	202	243	1 L	5 L	D	25, 66, 75, 106

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(9A) Passenger aircraft or railar	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
	Hydrogen peroxide, stabilized or Hydrogen peroxide aqueous solutions, stabilized with more than 60 percent hydrogen peroxide	5.1	UN2015	I	OXIDIZER, CORROSIVE	12, A3, A6, B12, B53, B80, B81, B85, T15, T37	None	201	Forbidden	Forbidden	D	25, 66, 75, 106
	Hydrogen, refrigerated liquid (cryogenic liquid)	2.1	UN1966		FLAMMABLE GAS	1	None	316	Forbidden	Forbidden	D	40
	Hydrogen selenide, anhydrous	2.3	UN2202		POISON GAS; FLAM- MABLE GAS.		None	192	Forbidden	Forbidden	D	40
	Hydrogen sulfate, see Sulfuric acid											
	Hydrogen sulfide, liquefied	2.3	UN1053		POISON GAS; FLAM- MABLE GAS.	2, B9, B14	None	304	Forbidden	Forbidden	D	40
	Hydrogen difluorides, n.o.s. solid	8	UN1740	II	CORROSIVE	N3, N34	None	212	15 kg	50 kg	A	25, 26, 40
	Hydrogen difluorides, n.o.s. solutions	8	UN1740	III	CORROSIVE	N3, N34	154	213	240	100 kg	A	25, 26, 40
	Hydrochloric acid, n.o.s. solutions	8	UN1791	III	CORROSIVE	N3, N34	None	202	242	30 L	A	25, 26, 40
	Hydrochloric acid, n.o.s. solutions with more than 5 percent but less than 16 percent available chlorine	8	UN1791	III	CORROSIVE	N3, N34	154	203	241	60 L	A	25, 26, 40
	Hydrochloric acid, n.o.s. solutions with 16 percent or more available chlorine	8	UN2662	III	CORROSIVE	N3, N34	153	213	240	200 kg	A	25, 26, 40
	Hydrofluoric acid, see Fluorosilicic acid											
	Hydroxy amine iodide	Forbidden										
	Hydroxylamine sulfate	8	UN2865	III	CORROSIVE		154	213	240	25 kg	A	
	Hypochlorite solutions with more than 5 percent but less than 16 percent available chlorine	8	UN1791	III	CORROSIVE	B104, N34, T7	154	203	241	5 L	B	26
	Hypochlorite solutions with 16 percent or more available chlorine	8	UN1791	III	CORROSIVE	A7, B2, B15, N34, T7	154	202	242	30 L	B	26
	Hypochlorites, inorganic, n.o.s.	5.1	UN3212	II	OXIDIZER		152	212	240	5 kg	D	48, 56, 58, 69, 106, 116, 118
	Hyponitrous acid	Forbidden										
	Igniter fuse, metal clad, see Fuse, igniter, tubular, metal clad											
	Igniters	1.1G	UN0121	II	EXPLOSIVE 1.1G		None	62	Forbidden	Forbidden	B	
	Igniters	1.2G	UN0314	II	EXPLOSIVE 1.2G		None	62	Forbidden	Forbidden	B	
	Igniters	1.3G	UN0315	II	EXPLOSIVE 1.3G		None	62	Forbidden	Forbidden	A	
	Igniters	1.4G	UN0325	II	EXPLOSIVE 1.4G		None	62	Forbidden	75 kg	A	24E
	Igniters	1.4S	UN0464	III	EXPLOSIVE 1.4S		None	62	Forbidden	100 kg	A	
	3,3'-iminodipropylamine	8	UN2269	III	CORROSIVE	T8	154	203	241	5 L	A	
	Infectious substances, affecting animals only	6.2	UN2900	III	INFECTIOUS SUB- STANCE.		196	196	None	50 mL or 50 g	B	
	Infectious substances, affecting humans	6.2	UN2814	III	INFECTIOUS SUB- STANCE.		196	196	None	50 mL or 50 g	B	
	Inflammable, see Flammable											
	Initiating explosives (dry)	Forbidden										
	Inositol hexanitrate (dry)	Forbidden										
	Insecticide gases flammable n.o.s.	2.1	NA1954		FLAMMABLE GAS		306	304	314, 315	75 kg	D	
	Insecticide gases, n.o.s.	2.2	UN1968		NONFLAMMABLE GAS		306	304	314, 315	75 kg	A	
	Insecticide gases, toxic, n.o.s.	2.3	UN1967		POISON GAS	3	None	193, 334	245	Forbidden	D	40
	Inulin trinitrate (dry)	Forbidden										
	Iodine azide (dry)	Forbidden										
	Iodine monochloride	8	UN1792	II	CORROSIVE	B5, N41, T8, T26	None	212	240	Forbidden	D	40, 66, 74, 89, 90
	Iodine pentaffluoride	5.1	UN2495	I	OXIDIZER, POISON, CORROSIVE.		None	205	243	Forbidden	D	25, 40, 66, 89, 90
	2-Iodobutane	3	UN2390	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	B	
	Iodomethanes	3	UN2391	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	B	
	Iodopropanes	3	UN2392	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	A	
	Iodoxy compounds (dry)	Forbidden										
	Indium nitroacetamide indium nitrate	Forbidden										
	Iron chloride, see Ferric chloride											
	Iron oxide, spent, or Iron sponge, spent obtained from coal gas purification	4.2	UN1376	III	SPONTANEOUSLY COMBUSTIBLE.	B18	None	213	240	Forbidden	E	

Chemical Name	UN1994	Hazard Class	Label	Signal Word	Pictogram	Other	192	244	Forbidden	Forbidden	D
Iron pentacarbonyl	6.1	UN1994	POISON, FLAMMABLE LIQUID.		1, B9, B14, B30, B72, B77, T38, T43, T44.		None	244	Forbidden	Forbidden	40
Iron sesquichloride, see Ferric chloride											
Irritating material, see Tear gas substances, etc.											
Isobutane or isobutane mixtures see also Petroleum gases, liquefied											
Isobutanol or isobutyl alcohol	3	UN1212	FLAMMABLE LIQUID		19		306	314, 315	Forbidden	150 kg	40
Isobutyl acetate	3	UN1213	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isobutyl acrylate	3	UN2527	FLAMMABLE LIQUID		T1		150	242	5 L	60 L	B
Isobutyl alcohol, see Isobutanol											
Isobutyl aldehyde, see Isobutyraldehyde											
Isobutyl chloroformate	6.1	NA2742	POISON, FLAMMABLE LIQUID, CORROSIVE.		2, B9, B14, B32, B74, T38, T43, T45.		None	244	1 L	30 L	A
Isobutyl formate	3	UN2393	FLAMMABLE LIQUID		T1		150	242	5 L	60 L	B
Isobutyl isobutyrate	3	UN2528	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isobutyl isocyanate	3	UN2486	FLAMMABLE LIQUID, POISON.		1, B9, B14, B30, B72, T38, T43, T44.		None	244	1 L	60 L	D
Isobutyl methacrylate	3	UN2283	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isobutyl propionate	3	UN2394	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isobutyramine	3	UN1214	FLAMMABLE LIQUID, CORROSIVE.		B101, T8		None	243	1 L	5 L	B
Isobutylene see also Petroleum gases, liquefied											
Isobutyraldehyde or isobutyl aldehyde	3	UN2045	FLAMMABLE LIQUID		T8		150	242	5 L	60 L	E
Isobutyric acid	3	UN2529	FLAMMABLE LIQUID, CORROSIVE.		B1, T1		150	242	5 L	60 L	A
Isobutyric anhydride	3	UN2530	FLAMMABLE LIQUID, CORROSIVE.		B1, T1		150	242	5 L	60 L	A
Isobutyronitrile	3	UN2284	FLAMMABLE LIQUID, POISON.		T17		None	243	1 L	60 L	E
Isobutyl chloride	3	UN2395	FLAMMABLE LIQUID, CORROSIVE.		B100, T9, T26		None	243	1 L	5 L	C
Isocyanates, flammable, toxic, n.o.s. or isocyanate solutions, flammable, toxic, n.o.s. flashpoint less than 23 degrees C	3	UN2478	FLAMMABLE LIQUID, POISON.		5, A3, A7, T15		None	243	1 L	60 L	D
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	POISON, FLAMMABLE LIQUID.		B1, T8		150	242	60 L	220 L	A
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	POISON		T15		None	243	5 L	60 L	D
Isocyanatobenzotrifluorides	6.1	UN2285	POISON		T8		153	241	60 L	220 L	D
Isobutylene	3	UN2287	FLAMMABLE LIQUID		5, B101, T14		None	243	5 L	60 L	B
Isobutylene	3	UN2288	FLAMMABLE LIQUID		T7		150	242	5 L	60 L	B
Isobutylene	3	UN1216	FLAMMABLE LIQUID		T7		150	242	5 L	60 L	E
Isopentanoic acid, see Corrosive liquids, n.o.s.											
Isopentanes	3	UN2371	FLAMMABLE LIQUID		T8		150	242	5 L	60 L	B
Isophorone diisocyanate	6.1	UN2290	FLAMMABLE LIQUID		T20		150	243	1 L	30 L	E
Isophoronediamine	8	UN2289	FLAMMABLE LIQUID		T7		153	241	60 L	220 L	B
Isoprene, inhibited	3	UN1218	CORROSIVE		T8		154	241	5 L	60 L	A
Isopropanol or isopropyl alcohol	3	UN1219	FLAMMABLE LIQUID		T20		150	243	1 L	30 L	E
Isopropyl acetate	3	UN2403	FLAMMABLE LIQUID		T1		150	242	5 L	60 L	B
Isopropylbenzene	3	UN2303	FLAMMABLE LIQUID		T1		150	242	5 L	60 L	B
Isopropyl acetate	3	UN1220	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isopropyl acid phosphate	8	UN1793	CORROSIVE		T7		154	240	25 kg	100 kg	A
Isopropyl alcohol, see Isopropanol											
Isopropyl butyrate	3	UN2405	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isopropyl chloroacetate	3	UN2347	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isopropyl chloroformate	6.1	UN2407	POISON, FLAMMABLE LIQUID, CORROSIVE.		2, B9, B14, B32, B74, B77, T38, T43, T45.		None	244	Forbidden	Forbidden	B
Isopropyl 2-chloropropionate	3	UN2334	FLAMMABLE LIQUID		B1, T1		150	242	60 L	220 L	A
Isopropyl isobutyrate	3	UN2406	FLAMMABLE LIQUID		T1		150	242	15 L	60 L	B

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.***)			(9) Quantity limitations		(10) Vessel storage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)		Vessel stow- age provi- sions (10B)
(1)	Isopropyl isocyanate	3	UN2483	I	FLAMMABLE LIQUID, POISON.	1, B9, B14, B30, B72, T36, T43, T44.	None	226	244	Forbidden	30 L	D	40
	Isopropyl mercaptan, see Propanethiols												
	Isopropyl nitrate	3	UN1222	II	FLAMMABLE LIQUID	T25	150	202	None	5 L	60 L	D	
	Isopropyl phosphoric acid, see Isopropyl acid phosphate												
	Isopropyl propionate	3	UN2409	I	FLAMMABLE LIQUID	T1	150	202	242	5 L	60 L	E	
	Isopropylamine	3	UN1221	I	FLAMMABLE LIQUID, CORROSIVE	T20	None	201	243	0.5 L	2.5 L	B	
	Isopropylbenzene	3	UN1918	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Isopropylcumyl hydroperoxide, with more than 72 percent in solution	Forbidden											
	Isosorbide dinitrate mixture with not less than 60 percent lactose, mannose, starch or calcium hydrogen phosphate	4.1	UN2907	II	FLAMMABLE SOLID		None	212	None	15 kg	50 kg	E	12
	Isosorbide-5-mononitrate	4.1	UN3251	III	FLAMMABLE SOLID		151	213	240	Forbidden	Forbidden	D	
	Isothiocyanic acid												
	Jet fuel, see Fuel aviation, turbine engine												
	Jet perforating guns, charged oil well, without detonator	1.1D	UN0124	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	24E
	Jet perforating guns, charged oil well, without detonator	1.4D	UN0494	II	EXPLOSIVE 1.4D	114	None	62	None	Forbidden	Forbidden	A	
	Jet perforators, see Charges, shaped, commercial, etc.												
	Jet tappers, without detonator, see Charges, shaped commercial, etc.												
	Jet thrust igniters, for rocket motors or Jato, see Igniters												
	Jet thrust unit (Jato), see Rocket motors												
	Kerosene	3	UN1223	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Ketones, liquid, n.o.s.	3	UN1224	II	FLAMMABLE LIQUID	T8, T31	None	201	243	1 L	30 L	E	
	Krypton, compressed												
	Krypton, refrigerated liquid (cryogenic liquid)												
	Lacquer base or lacquer chips, nitrocellulose, dry, see Nitrocellulose, etc. (UN 2557)												
	Lacquer base or lacquer chips, plastic, wet with alcohol or solvent, see Ni- trocellulose (UN 2059, UN 2060, UN 2555, UN2556) or Paint etc. (UN1263)												
	Lead acetate	6.1	UN1616	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Lead arsenates	6.1	UN1617	II	POISON		None	212	242	25 kg	100 kg	A	
	Lead arsenites	6.1	UN1618	II	POISON		None	212	242	25 kg	100 kg	A	
	Lead azide (dry)	Forbidden											
	Lead azide, wetted with not less than 20 percent water or mixture of alco- hol and water, by mass												
	Lead compounds, soluble, n.o.s.												
	Lead cyanide	6.1	UN1620	III	EXPLOSIVE 1.1A, KEEP AWAY FROM FOOD.	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Lead dioxide	5.1	UN1872	III	POISON	A1	152	213	240	100 kg	200 kg	A	26
	Lead dross, see Lead sulfate, with more than 3 percent free acid												34
	Lead mononitrosocarbonate	1.1A	NA0473	II	EXPLOSIVE 1.1A	111, 117	None	62	None	Forbidden	Forbidden	E	2E, 6E
	Lead nitrate	5.1	UN1469	II	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	
	Lead nitrosocarbonate (dry)	Forbidden											
	Lead perchlorate, solid	5.1	UN1470	II	OXIDIZER, POISON	T8	None	212	242	5 kg	25 kg	A	56, 58, 106
	Lead perchlorate, solution	5.1	UN1470	II	OXIDIZER, POISON	T8	None	202	243	1 L	5 L	A	56, 58, 106
	Lead peroxide, see Lead dioxide												
	Lead phosphite, dibasic	4.1	UN2969	III	FLAMMABLE SOLID		None	212	240	5 kg	25 kg	B	34
	Lead picrate (dry)	Forbidden											
	Lead stannate, wetted or Lead trinitrosocarbonate, wetted with not less than 20 percent water or mixture of alcohol and water, by mass												
	Lead sulfate with more than 3 percent free acid												
	Lead trinitrosocarbonate, see Lead stannate, etc.												
	Life-saving appliances, not self inflating containing dangerous goods as equipment												
	Life-saving appliances, self inflating												

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UN Number	Proper Shipping Name	Class	Subclass	Label	Quantity	Special Provisions	Other
3	Lighter replacement cartridges containing liquefied petroleum gases (and similar devices, each not exceeding 65 grams), see Lighters or lighter refills etc. containing flammable gas	3	1.4S	None	21	None	None
2.1	Lighters, use	2.1	None	None	21	None	None
2.1	Lighters or lighter refills containing flammable gas	2.1	None	None	308	None	None
2.1	Lime, unslaked, see Calcium oxide	2.1	None	None	304	314, 315	Forbiddn ... 150 kg
2.2	Liquefied gas, flammable, n.o.s.	2.2	None	None	304	314, 315	Forbiddn ... 150 kg
2.2	Liquefied gas, n.o.s.	2.2	None	None	304	314, 315	Forbiddn ... 150 kg
2.2	Liquefied gas, oxidizing, n.o.s.	2.2	None	None	304	314, 315	Forbiddn ... 150 kg
2.3	Liquefied gas, toxic, flammable, n.o.s. Inhalation Hazard Zone A	2.3	None	None	192	315	Forbiddn ...
2.3	Liquefied gas, toxic, flammable, n.o.s. Inhalation Hazard Zone B	2.3	None	None	304	314, 315	Forbiddn ...
2.3	Liquefied gas, toxic, flammable, n.o.s. Inhalation Hazard Zone C	2.3	None	None	304	314, 315	Forbiddn ...
2.3	Liquefied gas, toxic, flammable, n.o.s. Inhalation Hazard Zone D	2.3	None	None	304	314, 315	Forbiddn ...
2.3	Liquefied gas, toxic, n.o.s. Inhalation Hazard Zone A	2.3	None	None	192	315	Forbiddn ...
2.3	Liquefied gas, toxic, n.o.s. Inhalation Hazard Zone B	2.3	None	None	304	314, 315	Forbiddn ...
2.3	Liquefied gas, toxic, n.o.s. Inhalation Hazard Zone C	2.3	None	None	304	314, 315	Forbiddn ...
2.3	Liquefied gas, toxic, n.o.s. Inhalation Hazard Zone D	2.3	None	None	304	314, 315	Forbiddn ...
4.2	Liquefied gases, non-flammable charged with nitrogen, carbon dioxide or air	4.2	None	None	304	None	75 kg
4.3	Liquefied hydrocarbon gas, see Hydrocarbon gases, liquefied, n.o.s., etc.	4.3	None	None	211	244	Forbiddn ... 15 kg
4.3	Liquefied natural gas, see Methane, etc. (UN 1972)	4.3	None	None	211	244	Forbiddn ... 15 kg
4.3	Liquefied petroleum gas see Petroleum gases, liquefied	4.3	None	None	211	244	Forbiddn ... 15 kg
4.3	Lithium	4.3	None	None	181	244	Forbiddn ...
4.2	Lithium acetylacrylate ethylenediamine complex, see Water reactive solid etc.	4.2	None	None	181	244	Forbiddn ...
4.2	Lithium alkyls	4.2	None	None	181	244	Forbiddn ...
4.3	Lithium aluminum hydride	4.3	None	None	211	242	Forbiddn ... 15 kg
4.3	Lithium aluminum hydride, ethereal	4.3	None	None	201	244	Forbiddn ... 1 L
9	Lithium batteries, contained in equipment	9	None	None	185	185(0)	See A12
9	Lithium battery	9	None	None	185	185	35 kg gross
4.3	Lithium borohydride	4.3	None	None	211	242	Forbiddn ... 15 kg
4.3	Lithium ferrosilicon	4.3	None	None	212	241	50 kg
4.3	Lithium hydride	4.3	None	None	211	242	Forbiddn ... 15 kg
4.3	Lithium hydride, fused solid	4.3	None	None	212	241	15 kg
8	Lithium hydroxide, monohydrate or Lithium hydroxide, solid	8	None	None	212	240	50 kg
8	Lithium hydroxide, solution	8	None	None	202	242	30 L
5.1	Lithium hypochlorite, dry or Lithium hypochlorite mixtures, dry	5.1	None	None	203	241	5 L
5.1	Lithium in cartridges, see Lithium	5.1	None	None	212	240	25 kg
5.1	Lithium nitrate	5.1	None	None	213	240	100 kg
4.3	Lithium nitride	4.3	None	None	211	242	Forbiddn ... 15 kg
5.1	Lithium peroxide	5.1	None	None	212	241	5 kg
4.3	Lithium silicon	4.3	None	None	212	241	15 kg
6.1	LNG, see Methane etc. (UN 1972)	6.1	None	None	212	242	25 kg
4.2	London purple	4.2	None	None	181	244	Forbiddn ...
4.2	LPG, see Petroleum gases, liquefied	4.2	None	None	181	244	Forbiddn ...
4.2	Lye, see Sodium hydroxide, solutions	4.2	None	None	181	244	Forbiddn ...
4.2	Magnesium alkyls	4.2	None	None	181	244	Forbiddn ...
4.3	Magnesium aluminum phosphide	4.3	None	None	211	242	Forbiddn ... 15 kg

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.34)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railer	(9B) Cargo air- craft only	(10A) Vessel stow- age provi- sions	(10B) Other stow- age provi- sions
D	Magnesium arsenate	6.1	UN1622	II	POISON		None	212	242	25 kg	100 kg	A	
	Magnesium bisulfite solution, see Bisulfites, aqueous solutions, n.o.s.												
	Magnesium bromate	5.1	UN1473	II	OXIDIZER	A1	152	212	242	5 kg	25 kg	A	56, 58, 106
	Magnesium chlorate	5.1	UN2723	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106
	Magnesium diamide	4.2	UN2004	II	SPONTANEOUSLY COMBUSTIBLE	A8, A19, A20	None	212	241	15 kg	50 kg	C	
	Magnesium diphenyl	4.2	UN2005	I	SPONTANEOUSLY COMBUSTIBLE		None	187	244	Forbidden	Forbidden	C	
	Magnesium dross, wet or hot	Forbidden											
	Magnesium fluorosulfate	6.1	UN2853	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	26
	Magnesium granules, coated particle size not less than 149 microns	4.3	UN2950	III	DANGEROUS WHEN WET	A1, A19, B108	None	213	240	25 kg	100 kg	A	
	Magnesium hydride	4.3	UN2010	I	DANGEROUS WHEN WET	A19, B100, N40	None	211	242	Forbidden	15 kg	E	
	Magnesium or Magnesium alloys with more than 50 percent magnesium in pellets, turnings or ribbons	4.1	UN1869	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A	39
	Magnesium nitrate	5.1	UN1474	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A	56, 58, 106
	Magnesium perchlorate	5.1	UN1475	III	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Magnesium peroxide	5.1	UN1476	I	OXIDIZER	A19, N40	None	211	242	5 kg	15 kg	E	40, 85
	Magnesium phosphide	4.3	UN2011	I	DANGEROUS WHEN WET, POISON		None	211	244	Forbidden	15 kg	A	39
Magnesium, powder or Magnesium alloys, powder	4.3	UN1418	I	DANGEROUS WHEN WET, SPONTANE- OUSLY COMBUSTIBLE	A19, B56	None	211	244	Forbidden	15 kg	A	39	
Magnesium scrap, see Magnesium, etc. (UN 1869)													
Magnesium sulfide	4.3	UN2824	II	DANGEROUS WHEN WET	A19, B56, B100	None	212	241	15 kg	50 kg	A	39	
Magnetized material, see section 173.21													
Maleic acid	8	NA2215	III	CORROSIVE		154	213	240	25 kg	100 kg	A		
Maleic anhydride	8	UN2215	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A		
Malonitrile	6.1	UN2647	II	POISON		None	212	242	25 kg	100 kg	A	12	
Manganese ethylenebis(hiocarbamate complex with zinc) see Maneb or Maneb preparations with not less than 60 percent maneb													
Maneb or Maneb preparations with not less than 60 percent maneb	4.2	UN2210	III	SPONTANEOUSLY COMBUSTIBLE, DAN- GEROUS WHEN WET	A1, A19, B105	None	213	242	25 kg	100 kg	A	34	
Maneb stabilized or Maneb preparations, stabilized against self-heating	4.3	UN2968	III	DANGEROUS WHEN WET	53, A1, A19, B108	None	213	242	25 kg	100 kg	B	34	
Manganese nitrate	5.1	UN2724	III	OXIDIZER	A1	152	213	240	25 kg	100 kg	A		
Manganese resinates	Forbidden	UN1330	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	A		
Mannitol tetranitrate	Forbidden												
Mannitol hexanitrate (dry)	4.1	NA0133	II	EXPLOSIVE 1.1A	111	None	62	None	Forbidden	Forbidden	E	1E, 5E	
Mannitol hexanitrate, wetted or Nitromannite, wetted with not less than 40 percent water, by mass or mixture of alcohol and water													
Marine pollutants, liquid or solid, n.o.s., see Environmentally hazardous substances, liquid or solid, n.o.s.													
Matches, block, see Matches, strike anywhere													
Matches, fusee	4.1	UN2254	III	FLAMMABLE SOLID		186	186	None	Forbidden	Forbidden	A		
Matches, tusee	4.1	UN1944	III	FLAMMABLE SOLID		186	186	None	25 kg	100 kg	A		
Matches, safety (book, card or strike on box)	4.1	UN1331	III	FLAMMABLE SOLID		186	186	None	Forbidden	Forbidden	B		
Matches, strike anywhere	4.1	UN1331	III	FLAMMABLE SOLID		186	186	None	25 kg	100 kg	B		
Matches, wax, Vestal	4.1	UN1945	III	FLAMMABLE SOLID		186	186	None	25 kg	100 kg	B		
Matchstick acid, see Sulfuric acid													
Medicine, liquid, flammable, toxic, n.o.s.	3	UN3248	II	FLAMMABLE LIQUID, POISON	36	None	202	None	L	5 L	B	40	

Section	Product Name	UN Number	Quantity	Labeling	Classification	Other	Section	Product Name	UN Number	Quantity	Labeling	Classification	Other	
D	Medicine, liquid, toxic, n.o.s.	6.1 UN1951	5 L	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203	A	Medicine, liquid, toxic, n.o.s.	6.1 UN1951	5 L	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203	
	Medicine, solid, toxic, n.o.s.	6.1 UN3249	5 L	POISON	III	203		Medicine, solid, toxic, n.o.s.	6.1 UN3249	5 L	POISON	III	203	
	Medicines, corrosive, liquid, n.o.s.	8 NA1760	30 L	KEEP AWAY FROM FOOD.	III	212		Medicines, corrosive, liquid, n.o.s.	8 NA1760	30 L	KEEP AWAY FROM FOOD.	III	212	
	Medicines, corrosive, solid, n.o.s.	8 NA1759	80 L	KEEP AWAY FROM FOOD.	III	213		Medicines, corrosive, solid, n.o.s.	8 NA1759	80 L	KEEP AWAY FROM FOOD.	III	213	
	Medicines, flammable, liquid, n.o.s.	3 NA1993	100 kg	KEEP AWAY FROM FOOD.	III	202		Medicines, flammable, liquid, n.o.s.	3 NA1993	100 kg	KEEP AWAY FROM FOOD.	III	202	
	Medicines, flammable, solid, n.o.s.	4.1 NA1325	242 5 kg	KEEP AWAY FROM FOOD.	III	202		Medicines, flammable, solid, n.o.s.	4.1 NA1325	242 5 kg	KEEP AWAY FROM FOOD.	III	202	
	Medicines, oxidizing substance, solid, n.o.s.	5.1 NA1479	242 5 kg	KEEP AWAY FROM FOOD.	III	202		Medicines, oxidizing substance, solid, n.o.s.	5.1 NA1479	242 5 kg	KEEP AWAY FROM FOOD.	III	202	
	Methylthiothiophthalic anhydride, see Corrosive liquids, n.o.s.								Methylthiothiophthalic anhydride, see Corrosive liquids, n.o.s.					
	Mercaptans, liquid, flammable, toxic, n.o.s. or Mercaptan mixtures, liquid, flammable, toxic, n.o.s. or Mercaptan mixtures, liquid, flammable, toxic, n.o.s.	3 UN1228	60 L	FLAMMABLE LIQUID, POISON.	II	202		Mercaptans, liquid, flammable, toxic, n.o.s. or Mercaptan mixtures, liquid, toxic, flammable, n.o.s., flash point not less than 23 degrees C	3 UN1228	60 L	FLAMMABLE LIQUID, POISON.	II	202	40, 95
	Mercaptans, liquid, toxic, flammable, n.o.s. or Mercaptan mixtures, liquid, toxic, flammable, n.o.s., flash point not less than 23 degrees C	6.1 UN3071	60 L	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203		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	60 L	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203	40, 121
	5-Mercaptotetrazol-1-acetic acid	1.4C UN0448	75 kg	EXPLOSIVE 1.4C	II	62		5-Mercaptotetrazol-1-acetic acid	1.4C UN0448	75 kg	EXPLOSIVE 1.4C	II	62	1E, 5E, 24E
	Mercuro chloride	6.1 UN1623	100 kg	POISON	II	212		Mercuro chloride	6.1 UN1623	100 kg	POISON	II	212	
	Mercuro compounds, see Mercury compounds, etc.							Mercuro compounds, see Mercury compounds, etc.						
	Mercuro nitrate	6.1 UN1625	100 kg	POISON	II	212		Mercuro nitrate	6.1 UN1625	100 kg	POISON	II	212	
	Mercuro potassium cyanide	6.1 UN1626	50 kg	POISON	I	211		Mercuro potassium cyanide	6.1 UN1626	50 kg	POISON	I	211	28
Mercuro thiocyanate						Mercuro thiocyanate								
Mercuro, see Mercury nucleate						Mercuro, see Mercury nucleate								
Mercuro azide	Forbidden					Mercuro azide	Forbidden							
Mercuro compounds, see Mercury compounds, etc.						Mercuro compounds, see Mercury compounds, etc.								
Mercuro nitrate	6.1 UN1627	100 kg	POISON	II	212	Mercuro nitrate	6.1 UN1627	100 kg	POISON	II	212			
Mercuro	8 UN2809	35 kg	CORROSIVE	III	164	Mercuro	8 UN2809	35 kg	CORROSIVE	III	164	40, 97		
Mercuro acetate	6.1 UN1629	100 kg	POISON	II	212	Mercuro acetate	6.1 UN1629	100 kg	POISON	II	212			
Mercuro ammonium chloride	6.1 UN1630	100 kg	POISON	II	212	Mercuro ammonium chloride	6.1 UN1630	100 kg	POISON	II	212			
Mercuro based pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3 UN2778	30 L	FLAMMABLE LIQUID, POISON.	I	201	Mercuro based pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3 UN2778	30 L	FLAMMABLE LIQUID, POISON.	I	201	40		
Mercuro based pesticides, liquid, toxic	6.1 UN3012	60 L	POISON	II	202	Mercuro based pesticides, liquid, toxic	6.1 UN3012	60 L	POISON	II	202	40		
Mercuro based pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1 UN3011	220 L	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203	Mercuro based pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1 UN3011	220 L	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	III	203	40		
Mercuro based pesticides, solid, toxic	6.1 UN2777	50 kg	POISON	I	211	Mercuro based pesticides, solid, toxic	6.1 UN2777	50 kg	POISON	I	211	40		
Mercuro benzoate	6.1 UN1631	100 kg	POISON	II	212	Mercuro benzoate	6.1 UN1631	100 kg	POISON	II	212	40		
Mercuro bromides	6.1 UN1634	100 kg	POISON	II	212	Mercuro bromides	6.1 UN1634	100 kg	POISON	II	212	40		
Mercuro compounds, liquid, n.o.s.	6.1 UN2024	30 L	POISON	II	201	Mercuro compounds, liquid, n.o.s.	6.1 UN2024	30 L	POISON	II	201	40		
Mercuro compounds, solid, n.o.s.						Mercuro compounds, solid, n.o.s.								
Mercuro compounds, solid, n.o.s.	6.1 UN2025	220 L	POISON	I	211	Mercuro compounds, solid, n.o.s.	6.1 UN2025	220 L	POISON	I	211	40		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or raillar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
A	Mercury contained in manufactured articles	8	UN2809	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury cyanide	6.1	UN1636	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	
	Mercury fulminate, wetted with not less than 20 percent water, or mixture of alcohol and water, by mass	1.1A	UN0135	I	POISON	N74, N75	None	164	None	No limit	No limit	B	40, 97
	Mercury gluconate	6.1	UN1637	II	POISON	111, 117	None	212	242	25 kg	100 kg	A	28
	Mercury iodide	6.1	UN1638	II	POISON		None	212	242	25 kg	100 kg	A	2E, 6E
	Mercury iodide ammoniacal (iodide of Millon's base)	6.1	UN1638	II	POISON		None	202	243	5 L	60 L	A	
	Mercury nitride	Forbidden											
	Mercury nucleate	6.1	UN1639	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oleate	6.1	UN1640	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oxide	6.1	UN1641	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury oxyanide	Forbidden											
	Mercury oxycyanide	6.1	UN1642	II	POISON		None	212	242	25 kg	100 kg	A	26, 91
	Mercury potassium iodide	6.1	UN1643	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury salicylate	6.1	UN1644	II	POISON		None	212	242	25 kg	100 kg	A	
	Mercury selenite	6.1	UN1645	II	POISON		None	212	242	25 kg	100 kg	A	
Mercury thiocyanate	6.1	UN1646	II	POISON		None	212	242	25 kg	100 kg	A		
Mesityl oxide	3	UN1229	III	FLAMMABLE LIQUID	B1, T1	None	203	242	60 L	220 L	A		
Metal alkyl halides, n.o.s. or Metal aryl halides, n.o.s.	4.2	UN3049	I	COMBUSTIBLE	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D		
Metal alkyl hydrides, n.o.s. or Metal aryl hydrides, n.o.s.	4.2	UN3050	I	SPONTANEOUSLY COMBUSTIBLE	B9, B11, T28, T29, T40.	None	181	244	Forbidden	Forbidden	D		
Metal alkyl solution, n.o.s.	3	NA9195	III	FLAMMABLE LIQUID		150	202	242	1 L	4 L	B		
Metal alkyls, n.o.s. or Metal aryls, n.o.s.	4.2	UN2003	I	SPONTANEOUSLY COMBUSTIBLE	B11, T42	None	181	244	Forbidden	Forbidden	D		
Metal Carbonyls, n.o.s.	6.1	UN3281	I	POISON	T14	None	201	243	1 L	30 L	B	40	
			III	KEEP AWAY FROM FOOD.	T7	None	202	243	5 L	60 L	B	40	
			III	KEEP AWAY FROM FOOD.		153	203	241	60 L	220 L	A	40	
Metal catalyst, dry	4.2	UN2881	I	SPONTANEOUSLY COMBUSTIBLE	N34	None	187	None	Forbidden	Forbidden	C		
			II	SPONTANEOUSLY COMBUSTIBLE	N34	None	187	None	Forbidden	50 kg	C		
			III	SPONTANEOUSLY COMBUSTIBLE	N34	None	187	None	25 kg	100 kg	C		
Metal catalyst, wetted with a visible excess of liquid	4.2	UN1378	II	SPONTANEOUSLY COMBUSTIBLE	A2, A8, N34	None	212	None	Forbidden	50 kg	C		
Metal hydrides, flammable, n.o.s.	4.1	UN3182	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	E		
Metal hydrides, water reactive, n.o.s.	4.3	UN1409	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	E		
			III	DANGEROUS WHEN WET.	A19, N34, N40	None	211	242	Forbidden	15 kg	D		
			III	DANGEROUS WHEN WET.	A19, N34, N40	None	212	242	15 kg	50 kg	D		
Metal powder, self-heating, n.o.s.	4.2	UN3189	II	SPONTANEOUSLY COMBUSTIBLE		None	212	241	15 kg	50 kg	C		
			III	SPONTANEOUSLY COMBUSTIBLE		None	213	241	25 kg	100 kg	C		
Metal powders, flammable, n.o.s.	4.1	UN3089	II	FLAMMABLE SOLID		151	212	240	15 kg	50 kg	B		
Metal salts of methyl nitramine (dry)	Forbidden		III	FLAMMABLE SOLID		151	213	240	25 kg	100 kg	B		
Metal salts of organic compounds, flammable, n.o.s.	4.1	UN3181	II	FLAMMABLE SOLID	A1	151	212	240	15 kg	50 kg	B	40	
Metaldehyde	4.1	UN1332	III	FLAMMABLE SOLID	A1	151	213	240	25 kg	100 kg	B	40	
Metallic substance, water-reactive, n.o.s.	4.3	UN3208	I	FLAMMABLE SOLID	A1	None	211	242	Forbidden	15 kg	E	40	
			II	DANGEROUS WHEN WET.		None	212	242	15 kg	50 kg	E	40	
			III	DANGEROUS WHEN WET.		None	213	241	25 kg	100 kg	E	40	

Chemical Name	UN Number	Quantity	Labeling	Classification	Provisions	Other	Quantity	Labeling	Provisions	Other
Metallic substance, water-reactive, self-heating, n.o.s.	4.3 UN3209	15 kg	Forbidden	I DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	211	None	242	Forbidden	E	40
Methacryaldehyde	3 UN2396	60 L	1 L	II DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	212	None	242	15 kg	E	40
Methacrylic acid, inhibited	8 UN2531	60 L	5 L	III DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	213	None	242	25 kg	E	40
Methacrylonitrile, inhibited	3 UN3079	30 L	Forbidden	III DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE.	202	None	243	1 L	E	40
Methyl alcohol	3 UN2614	220 L	60 L	II FLAMMABLE LIQUID, POISON.	203	154	241	5 L	A	12, 40, 48
Methane and hydrogen, mixtures, see Hydrogen and methane, mixtures, etc.										
Methane, compressed or Natural gas, compressed (with high methane content)	2.1 UN1971	Forbidden		III FLAMMABLE LIQUID.	203	150	242	60 L	A	
Methane, refrigerated liquid (cryogenic liquid) or Natural gas, refrigerated liquid (cryogenic liquid), with high methane content	2.1 UN1972	Forbidden		III FLAMMABLE LIQUID.	203	150	242	60 L	A	
Methanesulfonyl chloride	6.1 UN3246	3		I POISON.	201	None	243	0.5 L	D	
Methanol, or Methyl alcohol	3 UN1230	3		II FLAMMABLE LIQUID.	202	150	242	1 L	B	
Methanol, or Methyl alcohol	3 UN1230	3		II FLAMMABLE LIQUID.	202	150	242	1 L	B	
Methazoc acid	3 UN2393	3		III FLAMMABLE LIQUID.	203	150	242	60 L	A	
4-Methoxy-4-methylpentan-2-one	3 UN3092	3		III FLAMMABLE LIQUID.	203	150	242	60 L	A	
1-Methoxy-2-propanol	3 UN2605	3		I POISON.	226	None	244	Forbidden	D	
Methoxymethyl isocyanate										
Methyl acetate	3 UN1231	3		II FLAMMABLE LIQUID.	202	150	242	5 L	B	
Methyl acrylate and propadiene mixtures, stabilized	2.1 UN1060	2.1		II FLAMMABLE LIQUID.	304	306	314, 315	Forbidden	B	40
Methyl acrylate, inhibited	3 UN1919	3		II FLAMMABLE LIQUID.	150	150	202	5 L	B	
Methyl alcohol, see Methanol										
Methyl allyl chloride	3 UN2554	3		II FLAMMABLE LIQUID.	150	150	202	5 L	E	
Methyl amyl ketone, see Amyl methyl ketone										
Methyl benzoate	6.1 UN2338	6.1		III KEEP AWAY FROM FOOD.	153	153	203	60 L	A	
Methyl bromide	2.3 UN1062	2.3		III POISON GAS.	193	None	314, 315	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	6.1		I POISON.	227	None	244	Forbidden	C	40
Methyl bromoacetate	6.1 UN2643	6.1		II POISON.	202	None	243	5 L	D	40
2-Methyl-1-butene	3 UN2459	3		II FLAMMABLE LIQUID.	201	None	243	1 L	E	
3-Methyl-2-butene	3 UN2460	3		II FLAMMABLE LIQUID.	202	None	242	5 L	E	
Methyl tert-butyl ether	3 UN2961	3		I FLAMMABLE LIQUID.	201	None	243	1 L	E	
Methyl butylate	3 UN2398	3		II FLAMMABLE LIQUID.	150	150	202	5 L	E	
Methyl chloride	2.1 UN1063	2.1		II FLAMMABLE LIQUID.	202	306	314, 315	100 kg	D	40
Methyl chloride and chloropicrin mixtures, see Chloropicrin and methyl chloride mixtures										
Methyl chloride and methylene chloride mixtures	2.1 UN1912	2.1		II FLAMMABLE GAS.	304	306	314, 315	Forbidden	D	40
Methyl chloroacetate	6.1 UN2295	6.1		II POISON.	202	None	243	5 L	C	
Methyl chloroformate, see Methyl chloroformate										
Methyl chloroform, see 1,1,1-Trichloroethane										
Methyl chloroformate	6.1 UN1238	6.1		I POISON, FLAMMABLE LIQUID, CORROSIVE.	226	None	244	Forbidden	D	21, 40, 100
Methyl chloromethyl ether	6.1 UN1239	6.1		I POISON, FLAMMABLE LIQUID.	226	None	244	Forbidden	D	40
Methyl 2-chloropropionate	3 UN2833	3		III FLAMMABLE LIQUID.	150	150	203	60 L	A	
Methyl dichloroacetate	6.1 UN2299	6.1		III KEEP AWAY FROM FOOD.	153	153	203	60 L	A	

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or ralicar	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
	Methyl ethyl ether, <i>see</i> Ethyl methyl ether												
	Methyl ethyl ketone, <i>see</i> Ethyl methyl ketone												
	Methyl ethyl ketone peroxide, in solution with more than 9 percent by mass active oxygen	Forbidden 6.1	UN2300	III	KEEP AWAY FROM FOOD.	T7	153	203	241	220 L	A		
	2-Methyl-5-ethylpyridine												
	Methyl fluoride	2.1	UN2454	I	FLAMMABLE GAS	T20	306	304	314, 315	150 kg	E	40	
	Methyl formate	3	UN1243	I	FLAMMABLE LIQUID	T20	150	201	243	30 L	E		
	Methyl iodide	6.1	UN2644	I	POISON	2, B9, B14, B32, T45	None	227	244	Forbidden	A	12, 40	
	Methyl isobutyl carbonyl												
	Methyl isobutyl ketone	3	UN2053	III	FLAMMABLE LIQUID	B1, T1	150	203	242	220 L	A		
	Methyl isobutyl ketone peroxide, in solution with more than 9 percent by mass active oxygen	3	UN1245	II	FLAMMABLE LIQUID	T1	150	202	242	60 L	B		
	Methyl isocyanate	Forbidden 6.1	UN2480	I	POISON, FLAMMABLE LIQUID.	1, A7, B9, B14, B30, B72, T38, T43, T44	None	226	244	Forbidden	D	26, 40	
	Methyl isopropenyl ketone, inhibited												
	Methyl isothiocyanate	3	UN1246	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	B		
		3	UN2477	II	FLAMMABLE LIQUID, POISON.	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	A		
	Methyl isovalerate	3	UN2400	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	B		
	Methyl magnesium bromide, in ethyl ether	4.3	UN1828	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID.		None	201	243	1 L	D		
	Methyl mercaptan	2.3	UN1084	I	POISON GAS, FLAMMABLE GAS.	3, 25, B7, B9, B14	None	304	314, 315	25 kg	D	40	
	Methyl mercaptopropane/ethylene, <i>see</i> Thia-4-pentanal												
	Methyl methacrylate monomer, inhibited												
	Methyl nitramine (dry)	Forbidden	UN1247	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	B	40	
	Methyl nitrate	Forbidden											
	Methyl nitrite	Forbidden											
	Methyl norbornene dicarboxylic anhydride, <i>see</i> Corrosive liquids, n.o.s.												
	Methyl orthosilicate	5.1	UN2606	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	E	40	
	Methyl parathion liquid	6.1	NA3018	II	POISON	N76, T14	None	202	243	1 L	A	40	
	Methyl parathion solid	6.1	NA2783	II	POISON	N77	None	212	242	25 kg	A	40	
	Methyl phosphonic dichloride	6.1	NA8206	I	POISON, CORROSIVE	2, A3, B9, B14, B32, B74, N34, N43, T38, T43, T45	None	227	244	Forbidden	C		
	Methyl phosphonothioic dichloride, anhydrous, <i>see</i> Corrosive liquid, n.o.s.												
	Methyl phosphonous dichloride, pyrophoric liquid	6.1	NA2845	I	POISON, SPONTANEOUSLY COMBUSTIBLE.	2, B9, B14, B16, B32, B74, T38, T43, T45	None	227	244	Forbidden	D	18	
	Methyl picric acid (heavy metal salts of)												
	Methyl propionate	Forbidden	UN1248	II	FLAMMABLE LIQUID	B101, T2	150	202	242	5 L	B		
	Methyl propyl ether	3	UN2612	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	E	40	
	Methyl propyl ketone	3	UN1249	II	FLAMMABLE LIQUID	T1	150	202	242	5 L	B		
	Methyl sulfite, <i>see</i> Dimethyl sulfite												
	Methyl sulfite, <i>see</i> Dimethyl sulfite												
	Methyl trichloroacetate	6.1	UN2633	III	KEEP AWAY FROM FOOD.	45, T1	153	203	241	220 L	A		
	Methyl trimethyl methane trinitrate												
	Methyl vinyl ketone	Forbidden	UN1251	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	B		
	Methylamine, anhydrous	3	UN1234	II	FLAMMABLE LIQUID	T14	None	202	242	5 L	E		
	Methylamine, aqueous solution	2.1	UN1081	II	FLAMMABLE GAS		306	304	314, 315	Forbidden	B	40	
		3	UN1235	II	FLAMMABLE LIQUID, CORROSIVE.	B1, T8	150	202	243	1 L	E	41	

Product Name	UN Number	Class	Label	Quantity	Other	Code	Notes
Methylamine dinitrate and dry salts thereof		Forbidden					
Methylamine nitroform		Forbidden					
Methylamine perchlorate (dry)	UN2233	3	6.1	220 L	A		
Methylamyl acetate	UN2294	6.1		220 L	A		
N-Methylamine							
alpha-Methylbenzyl alcohol	UN2937	6.1		220 L	A		
3-Methylbutan-2-one	UN2397	3		60 L	B		
N-Methylbutylamine	UN2945	3		5 L	B		
Methylchlorosilane	UN2534	2.3		Forbidden	D		17, 40
Methylcyclohexane	UN2296	3		60 L	B		
Methylcyclohexanols, flammable	UN2617	3		220 L	A		
Methylcyclohexanone	UN2297	3		220 L	A		
Methylcyclopentane	UN2298	3		60 L	B		
Methylchloroarsine	NA1856	6.1		Forbidden	D		40, 95
Methyldichlorosilane	UN1242	4.3		1 L	D		21, 28, 40, 49, 100
Methylene chloride, see Dichloromethane							
Methylene glycol dinitrate		Forbidden					
2-Methylfuran	UN2301	3		60 L	E		
3-Methylglucoside tetranitrate		Forbidden					
3-Methylpentan-2-one	UN2302	3		220 L	A		
Methylphenylchlorosilane	UN1244	6.1		Forbidden	D		21, 40, 49, 100
Methylhydrazine							
1-Methylpiperidine	UN2399	3		5 L	B		40
Methyltetrahydrofuran	UN2536	3		60 L	B		
Methyltrichlorosilane	UN1250	3		2.5 L	B		40
alpha-Methylvaleraldehyde	UN2367	3		60 L	B		
Mine rescue equipment containing carbon dioxide, see Carbon dioxide							
Mines with bursting charge	UN0136	1.1F		Forbidden	E		
Mines with bursting charge	UN0137	1.1D		Forbidden	B		3E, 7E
Mines with bursting charge	UN0138	1.2D		Forbidden	B		3E, 7E
Mines with bursting charge	UN0294	1.2F		Forbidden	E		
Mixed acid, see Nitrating acid, mixtures etc.							
Mobility aids, see Wheel chair, electric							
Model rocket motor	NA0276	1.4C		75 kg	A		24E
Model rocket motor	NA0323	1.4S		100 kg	A		9E
Molybdenum pentachloride	UN2508	8		100 kg	C		40
Monochloroacetone (unstabilized)		Forbidden					
Monochloroethylene, see Vinyl chloride, inhibited							
Monosodiumamine, see Ethanolamine, solutions							
Morpholine	UN2054	3		220 L	A		
Morpholine, aqueous, mixture, see Corrosive liquids, n.o.s.							
Motor fuel anti-knock compounds see Motor fuel anti-knock mixtures							
Motor fuel anti-knock mixtures	UN1649	6.1		30 L	D		25, 40
Motor spirit, see Gasoline							
Muratic acid, see Hydrochloric acid solution							
Musk xylene, see 5-tert-Butyl-2,4,6-trinitro-m-xylene							
Naphthalene, crude or Naphthalene, refined	UN1334	4.1		100 kg	A		
Naphthalene dioxonide		Forbidden					
Naphthalene, molten	UN2304	4.1		Forbidden	C		
beta-Naphthylamine	UN1650	6.1		25 kg	A		
alpha-Naphthylamine	UN2077	6.1		200 kg	A		
Naphthylamineperchlorate	UN1651	6.1		100 kg	A		
Naphthylthiourea	UN1652	6.1		100 kg	A		
Naphthylurea							

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.151)			(9) Quantity limitations		(10) Vessel storage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railer	(9B) Cargo air- craft only	(10A) Vessel stor- age provi- sions	(10B) Other slow- age provi- sions
	Natural gases (with high methane content), see Methane, etc. (UN 1971, UN 1972)												
	Naphthalene, see Hexanes												
	Neon, compressed	2.2	UN1065		NONFLAMMABLE GAS		306	302	75 kg	150 kg	A		
	Neon, refrigerated liquid (cryogenic liquid)	2.2	UN1913		NONFLAMMABLE GAS		320	None	50 kg	500 kg	B		
	New explosive or explosive device, see sections 173.51 and 173.56												
	Nickel carbonyl	6.1	UN1259	I	POISON, FLAMMABLE LIQUID.	1	None	198	Forbidden	Forbidden	D	18, 40	
	Nickel cyanide	6.1	UN1653	II	POISON		None	212	25 kg	100 kg	A	26	
	Nickel nitrate	5.1	UN2725	III	OXIDIZER	N74, N75	152	213	240	25 kg	A		
	Nickel nitrite	5.1	UN2726	III	OXIDIZER	A1	152	213	240	25 kg	A	56, 58	
	Nickel peroxide	Forbidden											
	Nicotine	6.1	UN1654	II	POISON		None	202	5 L	60 L	A	40	
	Nicotine compounds, liquid, n.o.s. or Nicotine preparations, liquid, n.o.s.	6.1	UN3144	II	POISON	A4, T42	None	201	243	30 L	B	40	
							153	203	241	60 L	B	40	
	Nicotine compounds, solid, n.o.s. or Nicotine preparations, solid, n.o.s.	6.1	UN1655	I	POISON		None	211	242	50 kg	B		
							153	213	240	100 kg	A		
	Nicotine hydrochloride or Nicotine hydrochloride solution	6.1	UN1656	II	POISON		None	202	243	60 L	A		
	Nicotine salicylate	6.1	UN1657	II	POISON		None	212	242	100 kg	A		
	Nicotine sulfate, solid	6.1	UN1658	II	POISON		None	212	242	100 kg	A		
	Nicotine sulfate, solution	6.1	UN1658	II	POISON	T14	None	202	243	60 L	A		
	Nicotine tartrate	6.1	UN1658	II	POISON		None	212	242	100 kg	A		
	Nitrated paper (unstable)	Forbidden											
	Nitrates, inorganic, aqueous solution, n.o.s.	5.1	UN3218	II	OXIDIZER	T8	152	202	1 L	5 L	B	46	
	Nitrates, inorganic, n.o.s.	5.1	UN1477	III	OXIDIZER	T8	152	203	241	30 L	B	46	
							152	212	240	25 kg	A	46	
							152	213	240	100 kg	A	46	
	Nitrates of diazonium compounds	Forbidden											
	Nitrating acid mixtures, spent with more than 50 percent nitric acid	8	UN1826	I	CORROSIVE, OXIDIZER	T12, T27	None	158	243	Forbidden	D	40, 66	
	Nitrating acid mixtures spent with not more than 50 percent nitric acid	8	UN1826	I	CORROSIVE	T27	None	158	242	Forbidden	D	40	
	Nitrating acid mixtures with more than 50 percent nitric acid	8	UN1796	I	CORROSIVE, OXIDIZER	T12, T27	None	158	243	Forbidden	D	40, 66	
	Nitrating acid mixtures with not more than 50 percent nitric acid	8	UN2031	I	CORROSIVE	B2, T12, T27	None	158	242	Forbidden	D	44, 66, 89,	
	Nitric acid other than red fuming, with more than 70 percent nitric acid	8	UN2031	I	CORROSIVE	B12, B47, B53, T9, T27	None	158	243	Forbidden	D	90, 110, 111	
	Nitric acid other than red fuming, with not more than 70 percent nitric acid	8	UN2031	I	CORROSIVE	B53, T9, T27	None	158	242	Forbidden	D	90, 110, 111	
	Nitric acid, red fuming	2.3	UN1660	I	CORROSIVE, OXI-DIZER, CORROSIVE.	2, B9, B32, B74, T38, T43, T45	None	227	244	Forbidden	D	40, 66, 74,	
							None	337	None	Forbidden	D	89, 90	
	Nitric oxide	2.3	UN1975	I	POISON GAS, OXI-DIZER, CORROSIVE.	B46, B50, B69, B77	None	337	None	Forbidden	D	40, 89, 90	
	Nitric oxide and dinitrogen tetroxide mixtures or Nitric oxide and nitrogen dioxide mixtures	3	UN3273	I	FLAMMABLE LIQUID, POISON, FLAMMABLE LIQUID, POISON.	T14	None	201	243	Forbidden	E	40, 52	
	Nitrites, flammable, toxic, n.o.s.	6.1	UN3275	I	POISON, FLAMMABLE LIQUID.		None	202	243	1 L	B	40, 52	
	Nitrites, toxic, flammable, n.o.s.	6.1	UN3275	I	POISON, FLAMMABLE LIQUID.		None	201	243	1 L	B	40	
							None	202	243	5 L	B	40	
	Nitrites, toxic, n.o.s.	6.1	UN3276	I	POISON		None	201	243	1 L	B		
							153	203	241	60 L	B		

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UN Number	Classification	Proper Name	Physical State	Quantity	Labeling	Special Provisions	Other
UN3219	5.1	Nitrites, inorganic, aqueous solution, n.o.s.	Liquid	242	1 L	None	46, 56, 59
UN2827	5.1	Nitrites, inorganic, n.o.s.	Liquid	241	2.5 L	None	46, 56, 59
UN2807	6.1	3-Nitro-4-chlorobenzotrifluoride	Liquid	None	5 kg	None	46, 56, 59
	Forbidden	6-Nitro-4-diazotoluene-3-sulfonic acid (dry)	Solid	243	5 L	None	40
	Forbidden	Nitro isobutane triol trinitrate	Liquid				
	Forbidden	N-Nitro-N-methylglycolamide nitrate	Liquid				
	Forbidden	2-Nitro-2-methylpropanol nitrate	Liquid				
	Forbidden	Nitro urea	Solid				
	Forbidden	N-Nitroaniline	Solid				
	Forbidden	Nitroanilines (o-, m-, p-)	Solid				
	Forbidden	Nitroanisole	Solid				
	Forbidden	Nitrobenzene	Liquid				
	Forbidden	m-Nitrobenzene diazonium perchlorate	Solid				
	Forbidden	Nitrobenzenesulfonic acid	Liquid				
	8	Nitrobenzol, see Nitrobenzene	Liquid				
	1.1D	5-Nitrobenzotriazol	Solid				
	6.1	Nitrobenzotrifluorides	Liquid				
	6.1	Nitrochrombenzenes liquid	Liquid				
	6.1	Nitrochrombenzenes solid	Solid				
	1.1D	Nitrocellulose, dry or wetted with less than 25 percent water (or alcohol), by mass	Solid				
	4.1	Nitrocellulose membrane filters	Solid				
	1.3C	Nitrocellulose, plasticized with not less than 18 percent plasticizing substance, by mass	Solid				
	3	Nitrocellulose, solution, flammable with not more than 12.6 percent nitrogen, by mass, and not more than 55 percent nitrocellulose	Liquid				
	1.1D	Nitrocellulose, unmodified or plasticized with less than 18 percent plasticizing substance, by mass	Solid				
	1.3C	Nitrocellulose, wetted with not less than 25 percent alcohol, by mass	Solid				
	4.1	Nitrocellulose with alcohol with not less than 25 percent alcohol by mass, and with not more than 12.6 percent nitrogen, by dry mass	Liquid				
	4.1	Nitrocellulose, 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 water with not less than 25 percent water, by mass	Liquid				
	4.1	Nitrocellulose with water with not less than 25 percent water, by mass	Liquid				
	6.1	Nitrochlorobenzene, see Chloronitrobenzenes etc.	Liquid				
	3	Nitroethane	Liquid				
	Forbidden	Nitroethyl nitrate	Liquid				
	Forbidden	Nitroethylene polymer	Solid				
	2.2	Nitrogen, compressed	Gas				
	2.2	Nitrogen dioxide, liquefied see Dinitrogen tetroxide, liquefied	Liquid				
	2.2	Nitrogen fertilizer solution, see Fertilizer ammoniating solution etc.	Liquid				
	2.2	Nitrogen, mixtures with rare gases, see Rare gases and nitrogen mixtures	Liquid				
	2.2	Nitrogen peroxide, see Dinitrogen tetroxide, liquefied	Liquid				
	2.2	Nitrogen, refrigerated liquid cryogenic liquid	Liquid				
	2.2	Nitrogen tetroxide and nitric oxide mixtures, see Nitric oxide and nitrogen tetroxide mixtures	Liquid				
	2.2	Nitrogen tetroxide, see Dinitrogen tetroxide, liquefied	Liquid				
	2.2	Nitrogen trichloride	Liquid				
	2.2	Nitrogen trifluoride	Liquid				
	2.3	Nitrogen trifluoride	Liquid				
	Forbidden	Nitrogen trioxide	Liquid				
	Forbidden	Nitrogen trioxide monoamine	Liquid				
	2.3	Nitrogen tetroxide	Liquid				
	1.1D	Nitroglycerin, desensitized with not less than 40 percent non-volatile water insoluble chlagmatizer by mass	Liquid				
	Forbidden	Nitroglycerin, liquid, not desensitized	Liquid				
	3	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 5 percent nitroglycerin	Liquid				
	1.1D	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 10 percent nitroglycerin	Liquid				
	3	Nitroglycerin solution in alcohol with not more than 1 percent nitroglycerin	Liquid				
	Forbidden	Nitroguanidine nitrate	Solid				

UN Number	Classification	Proper Name	Physical State	Quantity	Labeling	Special Provisions	Other
UN2556	4.1	Nitrocellulose, unmodified or plasticized with less than 18 percent plasticizing substance, by mass	Solid	151	1 kg	None	28
UN2557	4.1	Nitrocellulose, wetted with not less than 25 percent alcohol, by mass	Solid	151	1 kg	None	28
UN2555	4.1	Nitrocellulose with alcohol with not less than 25 percent alcohol by mass, and with not more than 12.6 percent nitrogen, by dry mass	Liquid	151	15 kg	None	28
UN2446	6.1	Nitrochlorobenzene, see Chloronitrobenzenes etc.	Liquid	153	100 kg	None	28
UN2842	3	Nitroethane	Liquid	150	60 L	None	28
UN1066	2.2	Nitrogen, compressed	Gas	306	75 kg	314, 315	4E, 27E 1E, 5E
UN1977	2.2	Nitrogen dioxide, liquefied see Dinitrogen tetroxide, liquefied	Liquid	320	50 kg	318	28
UN2451	2.2	Nitrogen peroxide, see Dinitrogen tetroxide, liquefied	Liquid	None	Forbidden	None	40
UN2451	2.3	Nitrogen trifluoride	Liquid	None	Forbidden	None	40
UN2421	2.3	Nitrogen tetroxide	Liquid	None	Forbidden	None	40, 89, 90
UN0143	1.1D	Nitroglycerin, desensitized with not less than 40 percent non-volatile water insoluble chlagmatizer by mass	Liquid	None	Forbidden	None	1E, 4E, 21E
UN5064	3	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 5 percent nitroglycerin	Liquid	None	Forbidden	None	1E, 5E, 21E
UN0144	1.1D	Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 10 percent nitroglycerin	Liquid	None	Forbidden	None	1E, 5E, 21E
UN1204	3	Nitroglycerin solution in alcohol with not more than 1 percent nitroglycerin	Liquid	None	Forbidden	None	1E, 5E, 21E

UN number	Description	Class	Label	Substance	Quantity	Special	Code	Notes
UN0266	Explosive 1.1 D	1.1 D	EXPLOSIVE 1.1 D	None	62	None	1E, 5E	
UN0496	Explosive 1.1 D	1.1 D	EXPLOSIVE 1.1 D	None	62	None	1E, 5E	
UN1191	Flammable liquid 3	3	FLAMMABLE LIQUID	None	203	242	A	
UN3023	Poison, flammable liquid 6.1	6.1	POISON, FLAMMABLE LIQUID	None	227	244	B	40, 102
UN1801	Corrosive 8	8	CORROSIVE	None	202	242	C	40
UN1071	Poison gas, flammable gas 2.3	2.3	POISON GAS, FLAMMABLE GAS	None	304	314, 315	D	40
UN3101	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE, EXPLOSIVE	53	225	None	D	12, 40
UN3111	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE, EXPLOSIVE	53	225	None	D	2, 40
UN3102	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE, EXPLOSIVE	53	225	None	D	12, 40
UN3112	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE, EXPLOSIVE	53	225	None	D	2, 40
UN3103	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3113	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3104	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3114	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3105	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3115	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3106	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3116	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3107	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3117	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3108	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3118	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3109	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3119	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
UN3110	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	12, 40
UN3120	Organic peroxide 5.2	5.2	ORGANIC PEROXIDE	53	225	None	D	2, 40
NA1955	Poison gas 2.3	2.3	POISON GAS	3	334	None	D	40
UN3280	Poison 6.1	6.1	POISON	T14	211	242	B	
			KEEP AWAY FROM FOOD	T7	212	242	B	
					213	240	A	
UN2762	Flammable liquid 3	3	FLAMMABLE LIQUID, POISON		201	243	B	40
			FLAMMABLE LIQUID, POISON		202	243	B	40
			FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	203	242	A	
UN2996	Poison 6.1	6.1	POISON	T42	201	243	B	40
			KEEP AWAY FROM FOOD	T14	202	243	B	40
			KEEP AWAY FROM FOOD	T14	203	241	A	40
UN2995	Poison, flammable liquid 6.1	6.1	POISON, FLAMMABLE LIQUID	T42	201	243	B	40
			POISON, FLAMMABLE LIQUID	T14	202	243	B	40
			KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	203	242	A	40
UN2761	Poison 6.1	6.1	POISON		211	242	A	40
			KEEP AWAY FROM FOOD		212	242	A	40
			KEEP AWAY FROM FOOD		213	240	A	40
UN3207	Dangerous when wet, flammable liquid 4.3	4.3	DANGEROUS WHEN WET, FLAMMABLE LIQUID		201	244	E	40
			DANGEROUS WHEN WET, FLAMMABLE LIQUID		202	243	E	40

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Passenger aircraft or raillar (9A)	Cargo air- craft only (9B)	Vessel stow- age provi- sions (10A)	Other stow- age provi- sions (10B)
	Organometallic compound, toxic n.o.s.	6.1	UN3282	I	POISON	T14	None	203	5 L	60 L	E	40
	Organophosphorus compound, toxic, flammable, n.o.s.	6.1	UN3279	I	POISON, FLAMMABLE LIQUID, LIQUID, LIQUID	T14	None	201	1 L	30 L	B	40
	Organophosphorus compound, toxic n.o.s.	6.1	UN3278	I	POISON	T14	None	202	5 L	60 L	B	40
	Organophosphorus pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2784	I	FLAMMABLE LIQUID, POISON		None	201	Forbidden	30 L	B	40
	Organophosphorus pesticides, liquid, toxic	6.1	UN3018	I	POISON	N76, T42	None	201	1 L	30 L	B	40
	Organophosphorus pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1	UN3017	I	POISON, FLAMMABLE LIQUID, LIQUID	N76, T42	None	201	1 L	30 L	B	40
	Organophosphorus pesticides, solid, toxic	6.1	UN2783	I	POISON	N77	None	211	5 kg	50 kg	A	40
	Organotin compounds, liquid, n.o.s.	6.1	UN2788	I	POISON	T14	None	201	1 L	30 L	B	40
	Organotin compounds, solid, n.o.s.	6.1	UN3146	I	POISON	A5	None	211	5 kg	50 kg	B	40
	Organotin pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2787	I	FLAMMABLE LIQUID, POISON		None	201	Forbidden	30 L	B	40
	Organotin pesticides, liquid, toxic	6.1	UN3020	I	POISON	T14	None	201	1 L	30 L	B	40
	Organotin pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	6.1	UN3019	I	POISON, FLAMMABLE LIQUID, LIQUID	T14	None	201	1 L	30 L	B	40

UN Number	Quantity	Classification	Label	Code	Quantity	Classification	Label	Code	Quantity	Classification	Label	Code
5.1 UN3216	100 kg	III	OXIDIZER	B5	240	1 L	Forbidden	213	None	152	None	A
3 UN3021	30 L	I	FLAMMABLE LIQUID, POISON	B5	243	5 L	Forbidden	201	None	None	None	B
6.1 UN2903	60 L	II	FLAMMABLE LIQUID, POISON	B1	243	1 L		202	None	None	None	B
	220 L	III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	242	60 L		203	None	150	None	B
6.1 UN2902	30 L	I	POISON, FLAMMABLE LIQUID	T42	243	1 L		201	None	None	None	B
	60 L	II	POISON, FLAMMABLE LIQUID	T14	243	5 L		202	None	None	None	B
	220 L	III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	242	60 L		203	None	153	None	A
6.1 UN2588	30 L	I	POISON	T42	243	1 L		201	None	None	None	B
	60 L	II	POISON	T14	243	5 L		202	None	None	None	B
	220 L	III	KEEP AWAY FROM FOOD	T14	241	60 L		203	None	153	None	A
	50 kg	I	POISON		242	5 kg		211	None	None	None	A
	100 kg	II	POISON		242	25 kg		212	None	None	None	A
	200 kg	III	KEEP AWAY FROM FOOD		240	100 kg		213	None	153	None	A
PETN, see Pentaerythrit tetranitrate												
PETN/TNT, see Perillolite, etc.												
Petrol, see Gasoline												
Petroleum crude oil		3	I	FLAMMABLE LIQUID	T8, T31	243	1 L	201	None	None	None	E
Petroleum distillates, n.o.s. or Petroleum products, n.o.s.		3	II	FLAMMABLE LIQUID	T8, T31	242	5 L	202	None	150	None	B
Petroleum gases, liquefied or Liquefied petroleum gas		2.1	III	FLAMMABLE LIQUID	B1, T7, T30	242	60 L	203	None	150	None	E
Petroleum oil		3	I	FLAMMABLE LIQUID	T8, T31	243	1 L	201	None	None	None	E
Phenacyl bromide		6.1	II	FLAMMABLE LIQUID	B1, T7, T30	242	60 L	202	None	150	None	B
Phenelidines		6.1	III	KEEP AWAY FROM FOOD	B106	242	25 kg	203	None	153	None	B
Phenol, molten		6.1	II	POISON	T7	241	60 L	201	None	None	None	A
Phenol, solid		6.1	II	POISON	B14, B100, T8	243	Forbidden	202	None	None	None	B
Phenol solutions		6.1	III	KEEP AWAY FROM FOOD	N78, T14	242	25 kg	212	None	None	None	A
Phenolsulfonic acid, liquid		8	II	CORROSIVE	T14	243	5 L	202	None	None	None	A
Phenoxy pesticides, liquid, flammable, toxic, flash point less than 23 degrees C		3	III	FLAMMABLE LIQUID, POISON	T7	241	60 L	203	None	153	None	A
Phenoxy pesticides, liquid, toxic		6.1	I	POISON	T42	243	1 L	201	None	None	None	B
Phenoxy pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C		6.1	II	POISON, FLAMMABLE LIQUID	T14	243	5 L	202	None	None	None	B
Phenoxy pesticides, solid, toxic		6.1	III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	B1, T14	242	60 L	203	None	153	None	A
Phenyl chloroformate		6.1	II	POISON, CORROSIVE	T12	243	1 L	202	None	None	None	A

12, 13, 21, 25, 40, 100

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or railcar	(9B) Cargo air- craft only	(10A) Vessel stow- age (10A)	(10B) Other stow- age provi- sions (10B)
(1)													
*	Phenyl isocyanate	6.1	UN2487	II	POISON	2, A3, B9, B14, B32, B74, B77, N33, N34, T38, T43, T45	None	227	244	5 L	60 L	D	40
	Phenyl mercaptan	6.1	UN2337	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, B77, T38, T43, T45	None	227	244	Forbidden	Forbidden	B	26, 40
	Phenyl phosphorus dichloride	8	UN2766	II	CORROSIVE	B2, B15, T8, T26	154	202	242	Forbidden	30 L	B	40
	Phenyl phosphorus trichloride	8	UN2799	II	CORROSIVE	B2, B15, T8, T26	154	202	242	Forbidden	30 L	B	40
	Phenyl urea pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2768	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40
				II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	40
				III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	A	40
	Phenyl urea pesticides, liquid, toxic	6.1	UN3002	I	POISON	T42	None	201	243	1 L	30 L	B	40
				II	POISON	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD.	T14	153	203	241	60 L	220 L	A	40
	Phenyl urea pesticides, liquid, toxic, flammable, flash point not less than 23 degrees C	6.1	UN3001	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40
				II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
				III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1, T14	153	203	242	60 L	220 L	A	40
	Phenyl urea pesticides, solid, toxic	6.1	UN2767	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Phenylisocyanitrile, liquid	6.1	UN2470	III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	A	26
	Phenylacetyl chloride	8	UN2577	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	C	40
	Phenylcarbonylamine chloride	6.1	UN1672	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	40
	<i>m</i> -Phenylene diamine/diperchlorate (dry)	Forbidden											
	Phenylenediamines (o-, m-, p-)	6.1	UN1673	III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Phenylhydrazine	6.1	UN2572	II	POISON	T8	None	202	243	5 L	60 L	A	40
	Phenylmercuric acetate	6.1	UN1674	II	POISON		None	212	242	25 kg	100 kg	A	40
	Phenylmercuric compounds, n.o.s.	6.1	UN2025	I	POISON		None	211	242	5 kg	50 kg	A	40
				II	POISON		None	212	242	25 kg	100 kg	A	40
				III	KEEP AWAY FROM FOOD.		153	213	240	100 kg	200 kg	A	40
	Phenylmercuric hydroxide	6.1	UN1894	II	POISON		None	212	242	25 kg	100 kg	A	40
	Phenylmercuric nitrate	6.1	UN1895	II	POISON		None	212	242	25 kg	100 kg	A	40
	Phenyltrichlorosilane	8	UN1804	II	CORROSIVE	A7, B6, N34, T8	None	202	242	Forbidden	30 L	C	40
	Phosgene	2.3	UN1075	II	POISON GAS, CORROSIVE.	1, B7, B46	None	192	314	Forbidden	Forbidden	D	40
	9-Phosphabicyclononanes or Cyclooctadiene phosphines	4.2	UN2940	II	SPONTANEOUSLY COMBUSTIBLE.	A19	None	212	241	15 kg	50 kg	A	40
	Phosphine	2.3	UN2199	II	POISON GAS, FLAMMABLE GAS.	1	None	192	245	Forbidden	Forbidden	D	40
	Phosphoric acid	8	UN1805	III	CORROSIVE	A7, N34, T7	154	203	241	5 L	60 L	A	40
	Phosphoric acid triethylenimine, see Tris-(1-aziridinyl)phosphine oxide, solution												
	Phosphoric anhydride, see Phosphorus pentoxide												
	Phosphorous acid	8	UN2834	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	48

Phosphorus, amorphous	4.1	UN1338	III	FLAMMABLE SOLID	A1, A19, B1, B9, B12, B26	None	213	243	25 kg	100 kg	A	74
Phosphorus bromide, see Phosphorus tribromide												
Phosphorus chloride, see Phosphorus trichloride												
Phosphorus heptasulfide, free from yellow or white phosphorus	4.1	UN1339	II	FLAMMABLE SOLID	A20, N34	None	212	240	15 kg	50 kg	B	74
Phosphorus oxybromide	8	UN1939	II	CORROSIVE	B9, B106, N41, N43	None	212	240	Forbidden	50 kg	C	12, 40
Phosphorus oxybromide, molten	8	UN2576	II	CORROSIVE	B2, B8, N41, N43, T8, T27	None	202	242	Forbidden	Forbidden	C	40
Phosphorus oxychloride	8	UN1810	II	CORROSIVE, POISON	2, A7, B9, B14, B32, B74, B77, N34, T38, T43, T45	None	227	244	Forbidden	30 L	C	40
Phosphorus pentabromide	8	UN2691	II	CORROSIVE	A7, B106, N34	154	212	240	Forbidden	50 kg	B	12, 40
Phosphorus pentasulfide	2.3	UN1806	II	CORROSIVE	A7, B106, N34	None	212	240	Forbidden	50 kg	C	40
Phosphorus pentasulfide, free from yellow or white phosphorus	4.3	UN1940	II	POISON GAS, CORROSIVE, DANGEROUS WHEN WET, FLAMMABLE	1	None	302	None	Forbidden	Forbidden	D	40
Phosphorus pentoxide	8	UN1807	II	CORROSIVE	A20, B59, B101	None	212	242	15 kg	50 kg	B	74
Phosphorus sesquisulfide, free from yellow or white phosphorus	4.1	UN1341	II	CORROSIVE	A7, N34	154	212	240	15 kg	50 kg	A	12
Phosphorus tribromide	8	UN1808	II	FLAMMABLE SOLID	A3, A6, A7, B2, B25, N34, N43, T8, B14, B15, B32, B74, B77, N34, T38, T43, T45	None	202	242	Forbidden	30 L	C	74
Phosphorus trichloride	8	UN1809	I	CORROSIVE, POISON		None	227	244	Forbidden	2.5 L	C	40
Phosphorus trioxide	8	UN2578	III	CORROSIVE	A20, N34	154	213	240	25 kg	100 kg	A	12
Phosphorus trisulfide, free from yellow or white phosphorus	4.1	UN1343	II	FLAMMABLE SOLID		None	212	240	15 kg	50 kg	B	74
Phosphorus white, under water or Phosphorus white, in solution or Phosphorus, yellow dry or Phosphorus, yellow, under water or Phosphorus, yellow, in solution	4.2	UN1381	I	SPONTANEOUSLY COMBUSTIBLE, POISON	B9, B12, B26, N34, T15, T26, T33	None	188	243	Forbidden	Forbidden	E	
Phosphorus white, molten	4.2	UN2447	I	SPONTANEOUSLY COMBUSTIBLE, POISON	B9, B12, B26, N34, T15, T26, T28	None	188	243	Forbidden	Forbidden	D	
Phosphorus (white or red) and a chlorate, mixtures of	Forbidden											
Phosphoryl chloride, see Phosphorus oxychloride												
Phthalic anhydride with more than .05 percent maleic anhydride	8	UN2214	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	
Phthalimide derivative pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2774	I	FLAMMABLE LIQUID, POISON		None	201	243	Forbidden	30 L	B	40
			II	FLAMMABLE LIQUID, POISON		None	202	243	1 L	60 L	B	40
			III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD	B1	150	203	242	60 L	220 L	A	
Phthalimide derivative pesticides, liquid, toxic	6.1	UN3008	I	POISON	T42	None	201	243	1 L	30 L	B	40
			II	POISON	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD	T14	153	203	241	60 L	220 L	A	40
Phthalimide derivative pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C	6.1	UN3007	I	POISON, FLAMMABLE LIQUID	T42	None	201	243	1 L	30 L	B	40
			II	POISON, FLAMMABLE LIQUID	T14	None	202	243	5 L	60 L	B	40
			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	T14	153	203	242	60 L	220 L	A	40
Phthalimide derivative pesticides, solid, toxic	6.1	UN2773	I	POISON		None	211	242	5 kg	50 kg	A	40
			II	POISON		None	212	242	25 kg	100 kg	A	40
			III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg	A	40
Picoules	3	UN2313	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	40
Picric acid, see Trinitrophenol, etc.												
Picric acid, wet, with not less than 10 percent water	4.1	NA1344	I	FLAMMABLE SOLID	A19, A20, N41	None	211	None	Forbidden	Forbidden	D	
Picric, see Nitroguanidine, etc.												
Picryl chloride, see Trinitrochlorobenzene												
Pine oil	3	UN1272	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
alpha-Phenene	3	UN2368	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Piperazine	8	UN2579	III	CORROSIVE	T7	154	213	240	25 kg	100 kg	A	12
Piperidine	3	UN2401	III	FLAMMABLE LIQUID, CORROSIVE	T2	None	202	243	1 L	5 L	B	

D

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§ 173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or raillar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
A	Pivaloyl chloride, see Trimethylacetyl chloride Plastic molding material in dough, sheet or extruded rope form Plastic solvent, n.o.s., see Flammable liquids, n.o.s. Plastics; nitrocellulose-based, self-heating, n.o.s.	9 4.2	UN2006	III III	CLASS 9 SPONTANEOUSLY COMBUSTIBLE.	(7)	155 None	213 213	None None	100 kg Forbidden	200 kg Forbidden	A C	
AW	Poisonous gases, n.o.s., see Compressed or liquefied gases, flammable or toxic, n.o.s. Polyalkylamines, n.o.s., see Amines, etc. Polychlorinated biphenyls Polyester resin kit Polyhalogenated biphenyls, liquid or Polyhalogenated terphenyls liquid Polyhalogenated biphenyls, solid or Polyhalogenated terphenyls, solid Polymeric beads, expandable, evolving flammable vapor Potassium	9 3 9 9 9 4.3	UN2315 UN2369 UN3151 UN3152 UN2211 UN2257	II II II III I	CLASS 9 FLAMMABLE LIQUID CLASS 9 None DANGEROUS WHEN WET	9, 81 40 32 A19, A20, B27, B100, N6, N34, T15, T26.	155 None 155 155 155 221 None 211	202 285 241 204 204 241 240 244	241 None None 241 241 240 244	100 L 5 kg 220 L 100 kg 200 kg 200 kg 1 kg	220 L 5 kg 220 L 100 kg 200 kg 200 kg 15 kg	A B A A A A D	34 34 34 85, 87
	Potassium arsenate Potassium arsenite Potassium bisulfite solution, see Bisulfites, inorganic, aqueous solutions, n.o.s. Potassium borohydride Potassium bromate Potassium carbonyl Potassium chlorate Potassium chlorate, aqueous solution Potassium chlorate mixed with mineral oil, see Explosive, blasting, type C Potassium cuprocyanide Potassium cyanide	6.1 6.1 4.3 5.1 Forbidden 5.1 5.1 6.1 6.1	UN1677 UN1678 UN1870 UN1484 UN1485 UN2427 UN1679 UN1680	II II I II II II II I	POISON POISON DANGEROUS WHEN WET OXIDIZER OXIDIZER OXIDIZER POISON POISON	A19, N40 A19, N40 A19, N40 A9, N34 A2, T8 B69, B77, N74, N75, T18, T26.	None None None 152 152 152 None None	212 212 211 212 212 202 241 242 211	242 242 242 242 241 242 242 242	25 kg 25 kg 15 kg 5 kg 5 kg 1 L 100 kg 50 kg	100 kg 100 kg 15 kg 25 kg 25 kg 5 L 100 kg 50 kg	A A E A A B A B	56, 58, 106 56, 58, 106 56, 58, 106 26 52
	Potassium dichloro isocyanurate or Potassium dichloro-s-triazinetrone, see Dichloroisocyanic acid, dry or Dichloroisocyanuric acid salts, etc. Potassium dithionite or Potassium hydrosulfite Potassium fluoride Potassium fluoroacetate Potassium fluorosilicate Potassium hydrate, see Potassium hydroxide, solid Potassium hydrogen fluoride, see Potassium hydrogen difluoride Potassium hydrogen fluoride solution, see Corrosive liquid, n.o.s. Potassium hydrogen sulfate Potassium hydrogendifluoride, solid Potassium hydrogendifluoride, solution Potassium hydrosulfite, see Potassium dithionite Potassium hydroxide, liquid, see Potassium hydroxide solution Potassium hydroxide, solid Potassium hydroxide solution Potassium hypochlorite, solution, see Hypochlorite solutions, etc. Potassium, metal alloys	4.2 6.1 6.1 6.1 8 8 8 8 4.3	UN1929 UN1812 UN2628 UN2655 UN2509 UN1811 UN1811 UN1813 UN1814 UN1420	III I III I II II II II I	SPONTANEOUSLY COMBUSTIBLE. KEEP AWAY FROM FOOD. POISON KEEP AWAY FROM FOOD. CORROSIVE CORROSIVE, POISON CORROSIVE, POISON CORROSIVE CORROSIVE CORROSIVE DANGEROUS WHEN WET	A8, A19, A20 T8 A7, N34 B106, N3, N34, T8 N3, N34, T8 B2, T8 T7 A19, A20, B27 WET	None 153 None 153 154 154 154 154 154 154	212 213 211 213 212 212 202 240 242 203 211	240 240 242 240 240 243 240 242 241 244	15 kg 100 kg 5 kg 100 kg 50 kg 30 L 50 kg 30 L 60 L 15 kg	50 kg 200 kg 50 kg 200 kg 50 kg 30 L 50 kg 30 L 60 L 15 kg	E A E A A A A A A D	13 26 26
	Potassium metavanadate Potassium monoxide Potassium nitrate Potassium nitrate and sodium nitrate mixtures Potassium nitrite Potassium perchlorate, solid Potassium perchlorate, solution Potassium permanganate	6.1 8 5.1 5.1 5.1 5.1 5.1	UN2864 UN2033 UN1486 UN1487 UN1488 UN1489 UN1490	II III III III III III II	POISON CORROSIVE OXIDIZER OXIDIZER OXIDIZER OXIDIZER OXIDIZER	A1, A29 B12, B78 A1, A29 B12, B78 A1, A29 B12, B78 B12	None 154 152 152 152 152 152	212 213 212 212 212 212 212	242 240 240 240 242 242 242	25 kg 15 kg 25 kg 25 kg 5 kg 5 kg 5 kg	100 kg 100 kg 25 kg 25 kg 25 kg 25 kg 25 kg	A A A A A A A D	56, 58 56, 58, 106 56, 58, 106 56, 58, 69, 106, 107

UN Number	UN Name	Class	Subclass	Proper Name	Quantity	Label	Other	Notes
5.1	Potassium peroxide	II	1.3C	UN1491	15 kg	Forbidden	A20, N34	13, 75, 106
5.1	Potassium persulfate	III	1.3C	UN1492	100 kg	Forbidden	A1, A29	40, 85
4.3	Potassium phosphide	I	1.3C	UN2012	15 kg	Forbidden	A19, N40	1E, 5E
1.3C	Potassium salts of aromatic nitro-derivatives, explosive	II	1.3C	UN0158	Forbidden	Forbidden		
	Potassium selenate, see Selenates or Selenites							
	Potassium selenite, see Selenates or Selenites							
	Potassium selenide							
	Potassium sodium alloys							
4.2	Potassium sulfide, anhydrous or Potassium sulfide with less than 30 percent water of crystallization	II	1.3C	UN1382	50 kg	Forbidden	A19, A20, B16, B106, N34	
8	Potassium sulfide, hydrated with not less than 30 percent water of crystallization	II	1.3C	UN1847	15 kg	Forbidden	A20	26
5.1	Potassium superoxide	I	1.3C	UN2466	15 kg	Forbidden		13, 75, 106
1.1C	Powder cake, wetted or Powder paste, wetted with not less than 17 percent alcohol by mass	II	1.1C	UN0433	Forbidden	Forbidden		1E, 5E
1.3C	Powder cake, wetted or Powder paste, wetted with not less than 25 percent water, by mass	II	1.3C	UN0159	Forbidden	Forbidden		1E, 5E
1.1C	Powder paste, see Powder cake, etc.	II	1.1C	UN0160	Forbidden	Forbidden		1E, 5E
1.3C	Powder, smokeless	II	1.3C	UN0161	Forbidden	Forbidden		10E, 26E
1.4S	Powder, smokeless	II	1.4S	UN0044	Forbidden	Forbidden		10E, 26E
1.1B	Primer device, explosive, see Cartridges, power device	II	1.1B	UN0377	100 kg	Forbidden		2E, 6E
1.4B	Primers, cap type	II	1.4B	UN0378	75 kg	Forbidden		24E
	Primers, cap type	II			Forbidden	Forbidden		
	Primers, small arms, see Primers, cap type							
1.3G	Primers, tubular	II	1.3G	UN0319	Forbidden	Forbidden		
1.4G	Primers, tubular	II	1.4G	UN0320	75 kg	Forbidden		
1.4S	Primers, tubular	II	1.4S	UN0376	100 kg	Forbidden		
3	Printing ink, flammable	I	3	UN1210	30 L	Forbidden		
	Projectiles, illuminating, see Ammunition, illuminating, etc.							
	Projectiles, inert with tracer	II	1.4S	UN0345	100 kg	Forbidden		3E, 7E, 9E
	Projectiles, inert, with tracer	II	1.3G	UN0424	Forbidden	Forbidden		3E, 7E
	Projectiles, inert, with tracer	II	1.4G	UN0425	75 kg	Forbidden		3E, 7E, 24E
	Projectiles, with burster or expelling charge	II	1.2D	UN0346	Forbidden	Forbidden		3E, 7E
	Projectiles, with burster or expelling charge	II	1.2F	UN0347	75 kg	Forbidden		3E, 7E, 24E
	Projectiles, with burster or expelling charge	II	1.2F	UN0426	Forbidden	Forbidden		
	Projectiles, with burster or expelling charge	II	1.4F	UN0427	Forbidden	Forbidden		
	Projectiles, with burster or expelling charge	II	1.2G	UN0434	Forbidden	Forbidden		
	Projectiles, with burster or expelling charge	II	1.4G	UN0435	75 kg	Forbidden		3E, 7E, 24E
	Projectiles, with bursting charge	II	1.1F	UN0167	Forbidden	Forbidden		
	Projectiles, with bursting charge	II	1.1D	UN0168	Forbidden	Forbidden		
	Projectiles, with bursting charge	II	1.2D	UN0169	Forbidden	Forbidden		
	Projectiles, with bursting charge	II	1.2F	UN0324	Forbidden	Forbidden		
	Projectiles, with bursting charge	II	1.4D	UN0344	75 kg	Forbidden		3E, 7E, 24E
2.1	Propadiene, inhibited	I	2.1	UN2200	150 kg	Forbidden		40
	Propadiene mixed with methyl acetylene, see Methyl acetylene and propadiene mixtures, stabilized							
	Propane or Propane mixtures see also Petroleum gases, liquefied							
	Propanethiols							
	n-Propanol or Propyl alcohol, normal	II	3	UN2402	5 L	Forbidden		40
	Propargyl alcohol	III	3	UN1274	60 L	Forbidden		95, 102
	Propellant explosive, liquid	II	1.1C	NA0474	Forbidden	Forbidden		
	Propellant explosive, liquid	II	1.3C	NA0477	Forbidden	Forbidden		1E, 5E
	Propellant, liquid	II	1.3C	UN0495	Forbidden	Forbidden		1E, 5E
	Propellant, liquid	II	1.1C	UN0497	Forbidden	Forbidden		
	Propellant, solid	II	1.1C	UN0498	Forbidden	Forbidden		
	Propellant, solid	II	1.3C	UN0499	Forbidden	Forbidden		
	Propionaldehyde	III	3	UN1275	60 L	Forbidden		
	Propionic acid	III	8	UN1848	24 L	Forbidden		
	Propionic anhydride	III	8	UN2498	24 L	Forbidden		
	Propionitrile	III	3	UN2404	60 L	Forbidden		
	Propylol chloride	II	3	UN1815	5 L	Forbidden		40
	n-Propyl acetate	II	3	UN1276	60 L	Forbidden		
	Propyl alcohol, see Propanol							
	n-Propyl benzene	III	3	UN2364	220 L	Forbidden		

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.16-1)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(9A) Passenger aircraft or raifcar	(9B) Cargo air- craft only	(10A) Vessel stow- age provi- sions	(10B) Other stow- age provi- sions	
D	Rockets, with bursting charge	1.1F	UN0180	II	EXPLOSIVE 1.1F		None	None	Forbidden	Forbidden	E		
	Rockets, with bursting charge	1.1E	UN0181	II	EXPLOSIVE 1.1E		None	None	Forbidden	Forbidden	E		
	Rockets, with bursting charge	1.2E	UN0182	II	EXPLOSIVE 1.2E		None	None	Forbidden	Forbidden	B		
	Rockets, with bursting charge	1.2F	UN0295	II	EXPLOSIVE 1.2F		None	None	Forbidden	Forbidden	E		
	Rockets, with expelling charge	1.2C	UN0436	II	EXPLOSIVE 1.2C		None	None	Forbidden	Forbidden	B		
	Rockets, with expelling charge	1.3C	UN0437	II	EXPLOSIVE 1.3C		None	None	Forbidden	Forbidden	B		
	Rockets, with expelling charge	1.4C	UN0438	II	EXPLOSIVE 1.4C		None	None	Forbidden	Forbidden	B		
	Rockets, with inert head	1.3C	UN0183	II	EXPLOSIVE 1.3C		None	None	Forbidden	Forbidden	B	24E	
	Rosin oil	3	UN1286	III	FLAMMABLE LIQUID	T7	150	242	5 L	Forbidden	Forbidden	B	
	Rubber solution	3	UN1287	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
Rubidium	4.3	UN1423	I	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	B		
Rubidium hydroxide	8	UN2678	II	CORROSIVE	B1, T7, T30	154	212	15 kg	Forbidden	Forbidden	A		
Rubidium hydroxide solution	8	UN2677	II	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A		
Safety fuses, see Fuse, safety					T7	154	203	241	5 L	60 L	A		
Samples, explosive, other than initiating explosives			UN0190	II	CORROSIVE	113	None	None	Forbidden	Forbidden	E	12E	
Selenic acid, see Fluoroselenic acid													
Seed cake, containing vegetable oil solvent extractions and expelled seeds, with not more than 10 percent of oil and when the amount of moisture is higher than 11 percent, with not more than 20 percent of oil and moisture combined													
Seed cake with more than 1.5 percent oil and not more than 11 percent moisture		4.2	UN1386	III	None	N7	None	213	Forbidden	Forbidden	A	13	
Seed cake with not more than 1.5 percent oil and not more than 11 percent moisture		4.2	UN1386	III	None	N7	None	213	Forbidden	Forbidden	E	13	
Selenates or Selenites		4.2	UN2217	III	None	N7	None	213	Forbidden	Forbidden	A	13	
Selenic acid		6.1	UN2630	I	POISON		None	211	242	5 kg	Forbidden		
Selenic acid		8	UN1905	I	CORROSIVE	N34	None	211	242	Forbidden	Forbidden		
Selenium compound, n.o.s.		6.1	UN3283	II	POISON	T14	None	211	242	5 kg	Forbidden		
Selenium disulfide		6.1	UN2657	III	POISON	T7	None	212	242	25 kg	Forbidden		
Selenium hexafluoride		2.3	UN2194	II	POISON GAS, CORROSIVE	1	None	302	None	Forbidden	Forbidden	40	
Selenium nitride		Forbidden											
Selenium oxide		6.1	N42811	I	POISON		None	211	242	5 kg	Forbidden		
Seleniumoxychloride		8	UN2879	I	CORROSIVE, POISON	A3, A6, A7, N34, T12, T27	None	201	243	0.5 L	2.5 L	40	
Selenium powder		6.1	UN2658	III	KEEP AWAY FROM FOOD		153	213	240	100 kg	200 kg		
Self-heating liquid, corrosive, inorganic, n.o.s.		4.2	UN3188	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	202	243	1 L	5 L		
Self-heating liquid, corrosive, organic, n.o.s.		4.2	UN3185	II	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE		None	203	241	5 L	60 L		
Self-heating liquid, inorganic, n.o.s.		4.2	UN3186	II	SPONTANEOUSLY COMBUSTIBLE		None	202	242	1 L	5 L		
Self-heating liquid, organic, n.o.s.		4.2	UN3183	II	SPONTANEOUSLY COMBUSTIBLE		None	203	241	5 L	60 L		

UN Number	Description	Class	Label	Quantity	Special Provisions	Other	Notes
UN3187	Self-heating liquid, toxic, inorganic, n.o.s.	4.2	241	5 L	203	None	60 L C
UN3184	Self-heating liquid, toxic, organic, n.o.s.	4.2	241	5 L	203	None	60 L C
UN3192	Self-heating solid, corrosive, inorganic, n.o.s.	4.2	242	15 kg	212	None	50 kg C
UN3126	Self-heating, solid, corrosive, organic, n.o.s.	4.2	242	25 kg	213	None	100 kg C
UN3190	Self-heating solid, inorganic, n.o.s.	4.2	241	15 kg	212	None	50 kg C
UN3088	Self-heating, solid, organic, n.o.s.	4.2	241	25 kg	213	None	100 kg C
UN3127	Self-heating, solid, oxidizing, n.o.s.	4.2	214	Forbidden	214	None	Forbidden C
UN3191	Self-heating solid, toxic, inorganic, n.o.s.	4.2	242	15 kg	212	None	50 kg C
UN3128	Self-heating, solid, toxic, organic, n.o.s.	4.2	242	15 kg	212	None	50 kg C
UN3221	Self-propelled vehicle, see Engines or Batteries etc.	4.1	224	Forbidden	224	None	Forbidden D
UN3231	Self-reactive liquid type B	4.1	224	Forbidden	224	None	Forbidden D
UN3223	Self-reactive liquid type B, temperature controlled	4.1	224	5 L	224	None	10 L D
UN3233	Self-reactive liquid type C	4.1	224	5 L	224	None	10 L D
UN3225	Self-reactive liquid type D	4.1	224	5 L	224	None	10 L D
UN3235	Self-reactive liquid type D, temperature controlled	4.1	224	5 L	224	None	10 L D
UN3227	Self-reactive liquid type E	4.1	224	10 L	224	None	25 L D
UN3237	Self-reactive liquid type E, temperature controlled	4.1	224	10 L	224	None	25 L D
UN3229	Self-reactive liquid type F	4.1	224	10 L	224	None	25 L D
UN3239	Self-reactive liquid type F, temperature controlled	4.1	224	10 L	224	None	25 L D
UN3222	Self-reactive solid type B	4.1	224	Forbidden	224	None	Forbidden D
UN3232	Self-reactive solid type B, temperature controlled	4.1	224	Forbidden	224	None	Forbidden D
UN3224	Self-reactive solid type C	4.1	224	5 kg	224	None	10 kg D
UN3234	Self-reactive solid type C, temperature controlled	4.1	224	5 kg	224	None	10 kg D
UN3226	Self-reactive solid type D	4.1	224	5 kg	224	None	10 kg D
UN3236	Self-reactive solid type D, temperature controlled	4.1	224	5 kg	224	None	10 kg D
UN3228	Self-reactive solid type E	4.1	224	10 kg	224	None	25 kg D
UN3238	Self-reactive solid type E, temperature controlled	4.1	224	10 kg	224	None	25 kg D
UN3230	Self-reactive solid type F	4.1	224	10 kg	224	None	25 kg D
UN3240	Self-reactive solid type F, temperature controlled	4.1	224	10 kg	224	None	25 kg D
UN1288	Shale oil	3	201	1 L	201	None	30 L B
UN0191	Shaped charges, commercial, see Charges, shaped, commercial etc.	1.4G	202	5 L	202	150	60 L B
UN0191	Signal devices, hand	1.4G	203	60 L	203	150	220 L A

Shaped charges, commercial, see Charges, shaped, commercial etc.
Signal devices, hand

\$172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.16-17)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
	Signal devices, hand	1.4S	UN0373	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	
	Signals, distress, ship	1.1G	UN0194	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, distress, ship	1.3G	UN0185	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	75 kg	B	
	Signals, highway, see Signal devices, hand; Fireworks, type D												
	Signals, railway track, explosive	1.1G	UN0192	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, railway track, explosive	1.4S	UN0193	II	EXPLOSIVE 1.4S		None	62	None	25 kg	100 kg	A	1E, 8E
	Signals, railway track, explosive	1.3G	UN0492	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	E	24E
	Signals, railway track, explosive, water-activated, etc.	1.4G	UN0493	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	
	Signals, smoke	1.1G	UN0196	II	EXPLOSIVE 1.1G		None	62	None	Forbidden	Forbidden	B	
	Signals, smoke	1.4G	UN0197	II	EXPLOSIVE 1.4G		None	62	None	Forbidden	75 kg	A	24E
	Signals, smoke	1.2G	UN0313	II	EXPLOSIVE 1.2G		None	62	None	Forbidden	Forbidden	B	
	Signals, smoke	1.3G	UN0487	II	EXPLOSIVE 1.3G		None	62	None	Forbidden	Forbidden	B	
	Silane	2.1	UN2203	II	FLAMMABLE GAS		None	302	None	Forbidden	Forbidden	E	40, 57, 104
	Silicofluoric acid, see Fluorosilicic acid												
	Silicon chloride, see Silicon tetrachloride												
	Silicon powder, amorphous	4.1	UN1346	III	FLAMMABLE SOLID	A1	None	213	240	25 kg	100 kg	A	40
	Silicon tetrachloride	8	UN1818	II	CORROSIVE	A3, A6, B2, B6, T18, T26, T29	154	202	242	1 L	30 L	C	40
	Silicon tetrafluoride	2.3	UN1859	II	POISON GAS, CORRO- SIVE	2, 25	None	302	None	Forbidden	25 kg	D	40
	Silver acetylide (dry)	Forbidden		II	POISON		None	212	242	25 kg	100 kg	A	
	Silver arsenite	6.1	UN1683	II	POISON		None	212	242	25 kg	100 kg	A	26, 40
	Silver azide (dry)	Forbidden		II	POISON		None	212	242	25 kg	100 kg	A	
	Silver chromite (dry)	Forbidden		II	POISON		None	212	242	25 kg	100 kg	A	
	Silver cyanide	6.1	UN1684	II	POISON		None	212	242	25 kg	100 kg	A	
	Silver fulminate (dry)	Forbidden		II	OXIDIZER		152	212	242	5 kg	25 kg	A	
	Silver nitrate	5.1	UN1493	II	OXIDIZER		None	212	242	25 kg	100 kg	A	
	Silver oxalate (dry)	Forbidden		II	FLAMMABLE SOLID		None	211	None	Forbidden	Forbidden	D	28, 36
	Silver picrate, wetted with not less than 30 percent water, by mass	4.1	UN1347	II	CORROSIVE	A3, A7, B2, N34, T8, T27	None	202	242	Forbidden	30 L	C	14
	Sludge, acid	8	UN1906	II	CORROSIVE	16	None	213	None	Forbidden	Forbidden	D	
	Smokeless powder for small arms (100 pounds or less)	4.1	NA3178	III	FLAMMABLE SOLID		None	171	None	Forbidden	Forbidden	A	
	Soda lime with more than 4 percent sodium hydroxide	8	UN1907	III	CORROSIVE	A7, A8, A19, A20, B9, B48, B68	154	213	240	25 kg	100 kg	A	
	Sodium	4.3	UN1428	I	DANGEROUS WHEN WET		None	211	244	1 kg	15 kg	D	
	Sodium aluminate, solid	8	UN2812	III	CORROSIVE	N34, T15, T29, T46	154	213	240	25 kg	100 kg	A	
	Sodium aluminate, solution	8	UN1819	III	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	
	Sodium aluminum hydride	4.3	UN2835	II	DANGEROUS WHEN WET	T7	None	212	242	Forbidden	50 kg	E	
	Sodium ammonium vanadate	6.1	UN2863	II	POISON	A8, A19, A20, B100	None	212	242	25 kg	100 kg	A	
	Sodium arseniate	6.1	UN2473	III	KEEP AWAY FROM FOOD		None	213	240	100 kg	200 kg	A	
	Sodium arsenite	6.1	UN1685	II	POISON		None	212	242	25 kg	100 kg	A	
	Sodium arsenite, aqueous solutions	6.1	UN1686	III	POISON	T15	None	202	243	5 L	60 L	A	
	Sodium azide	6.1	UN2027	II	POISON	T15	None	203	241	60 L	220 L	A	
	Sodium bisulfite, see Sodium hydrogenosulfite												
	Sodium bisulfite, solution, see Bisulfites, aqueous solutions, n.o.s.												
	Sodium borohydride	4.3	UN1426	I	DANGEROUS WHEN WET		None	211	242	Forbidden	15 kg	E	36, 52, 91
	Sodium bromate	5.1	UN1494	II	OXIDIZER	N40	None	211	242	Forbidden	15 kg	E	
	Sodium cacodylate	6.1	UN1688	II	POISON		152	212	242	5 kg	25 kg	A	56, 58, 106
	Sodium chlorate	5.1	UN1495	II	OXIDIZER	A9, N34, T8	None	212	240	25 kg	100 kg	A	26
	Sodium chlorate, aqueous solution	5.1	UN2428	II	OXIDIZER	A2, B6, T8	152	212	240	5 kg	25 kg	A	56, 58, 106
	Sodium chlorate mixed with dinitrochloroene, see Explosive blasting, type C						152	202	241	1 L	5 L	B	56, 58, 106

Chemical Name	UN Number	Classification	Quantity	Label Code	Other Labels	Quantity	Label Code	Other Labels
Sodium chlorite	UN1496	OXIDIZER	242	213	A9, N34, T8	5 kg	212	None
Sodium chloroacetate	UN2669	KEEP AWAY FROM FOOD	240	153		100 kg	213	None
Sodium cuprocyanide, solid	UN2316	POISON	242	None	T8, T26	5 kg	211	None
Sodium cuprocyanide, solution	UN2317	POISON	243	None	B69, B77, N74, N75, T42	1 L	203	None
Sodium cyanide	UN1689	POISON	242	None		5 kg	211	None
Sodium dichloroacrylate or Sodium dichloro-s-triazetrione, see Dichloroacrylate, acid etc.								
Sodium dinitro-cresolate, dry or wetted with less than 15 percent water, by mass								
Sodium dinitro-cresolate, wetted with not less than 15 percent water, by mass								
Sodium dithionite or Sodium hydrosulfite	UN234	EXPLOSIVE 1.3C	None	62		Forbidden	62	None
Sodium fluoride	UN1348	FLAMMABLE SOLID, POISON	None	211	23, AB, A19, A20, N41	1 kg	211	None
Sodium fluoroacetate	UN1384	SPONTANEOUSLY COMBUSTIBLE	241	None	A19, A20, B106	15 kg	212	None
Sodium fluorsulfate	UN1690	KEEP AWAY FROM FOOD	240	153	T8	100 kg	213	None
Sodium hydrate, see Sodium hydroxide, solid								
Sodium hydride	UN2829	POISON	242	None		5 kg	211	None
Sodium hydrogendifluoride	UN2674	KEEP AWAY FROM FOOD	240	153		100 kg	213	None
Sodium hydrogendifluoride solution	UN1427	DANGEROUS WHEN WET	242	None	A19, B100, N40	Forbidden	211	None
Sodium hydrosulfide, solution	UN2439	CORROSIVE	240	154	B106, N3, N34	15 kg	212	None
Sodium hydrosulfide, with less than 25 percent water of crystallization	UN2439	CORROSIVE	242	154	N3, N34	30 L	202	None
Sodium hydrosulfide with not less than 25 percent water of crystallization	NA2922	CORROSIVE, POISON	243	154	B2	1 L	202	None
Sodium hydrosulfite, see Sodium dithionite	UN2318	SPONTANEOUSLY COMBUSTIBLE	241	None	A7, A19, A20	15 kg	212	None
Sodium hydroxide, solid	UN2949	CORROSIVE	240	154	A7	15 kg	212	None
Sodium hydroxide solution	UN1823	CORROSIVE	240	154		15 kg	212	None
Sodium hypochlorite, solution, see Hypochlorite solutions etc.	UN1824	CORROSIVE	242	154	B2, N34, T8	1 L	202	None
Sodium metal, liquid alloy, see Alkali metal alloys, liquid, n.o.s.								
Sodium methylate	UN1431	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE	242	None	N34, T7	5 L	203	None
Sodium methoxide solutions in alcohol	UN1289	FLAMMABLE LIQUID, CORROSIVE	243	None	A19	1 L	212	None
Sodium monoxide	UN1825	FLAMMABLE LIQUID, CORROSIVE	242	150	T8, T31	5 L	202	None
Sodium nitrate	UN1498	CORROSIVE	240	154	B1, T7, T30	5 L	203	None
Sodium nitrate and potassium nitrate mixtures	UN1499	OXIDIZER	240	152		15 kg	212	None
Sodium nitrite	UN1500	OXIDIZER	240	152	A1, A29	25 kg	213	None
Sodium pentachlorophenate	UN2567	OXIDIZER	240	152	A1, A29	25 kg	213	None
Sodium percarbonate	UN2467	OXIDIZER	242	152		25 kg	213	None
Sodium perchlorate	UN1502	OXIDIZER	242	152	27, A1, A29	25 kg	212	None
Sodium permanganate	UN1503	OXIDIZER	242	152		5 kg	212	None
Sodium peroxide	UN1504	OXIDIZER	None	211	A20, N34	Forbidden	211	None
Sodium perborate, anhydrous	UN3247	OXIDIZER	240	152		5 kg	212	None
Sodium persulfate	UN1505	OXIDIZER	240	152	A1	25 kg	213	None
Sodium phosphide	UN1432	DANGEROUS WHEN WET, POISON	None	211	A19, N40	Forbidden	211	None
Sodium picramate, dry or wetted with less than 20 percent water, by mass								
Sodium picramate, wetted with not less than 20 percent water, by mass								
Sodium peroxydisulfate	UN0235	EXPLOSIVE 1.3C	None	62	23, AB, A19, N41	Forbidden	62	None
Sodium peroxide	UN1349	FLAMMABLE SOLID	None	211		Forbidden	211	None
Sodium selenate, see Selenates or Selenites								
Sodium selenite	UN0203	EXPLOSIVE 1.3C	None	62		Forbidden	62	None
Sodium sulfide, anhydrous or Sodium sulfide with less than 30 percent water of crystallization	NA2630	POISON	242	None		25 kg	212	None
Sodium sulfide, hydrated with not less than 30 percent water	UN1385	SPONTANEOUSLY COMBUSTIBLE	241	None	A19, A20, B106, N34	15 kg	212	None
Sodium superoxide	UN1849	CORROSIVE	240	154	T8	15 kg	212	None
Sodium telluride	UN2547	OXIDIZER	240	154	A20, N34	Forbidden	211	None
Solids containing corrosive liquid, n.o.s.	UN3244	CORROSIVE	240	154		15 kg	212	None
Solids containing flammable liquid, n.o.s.	UN3175	FLAMMABLE SOLID	240	151	47	50 kg	212	None
Solids containing toxic liquid, n.o.s.	UN3243	POISON	240	151	49	100 kg	212	None
Solids containing toxic liquid, n.o.s.	UN3243	POISON	240	151	48	100 kg	212	None

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§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.24)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
	Sounding devices, explosive	1.2F	UN2004	II	EXPLOSIVE 1.2F		None	62	None	Forbidden	Forbidden	E	
	Sounding devices, explosive	1.1F	UN2006	II	EXPLOSIVE 1.1F		None	62	None	Forbidden	Forbidden	E	
	Sounding devices, explosive	1.1D	UN0374	III	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	
	Sounding devices, explosive	1.2D	UN0375	III	EXPLOSIVE 1.2D		None	62	None	Forbidden	Forbidden	B	
	Spirits of salt, see Hydrochloric acid												
	Souls, see Igniters etc.												
	Stannic chloride, anhydrous	8	UN1827	II	CORROSIVE	B2, T8, T26	154	202	242	1 L	30 L	C	
	Stannic chloride, pentahydrate	8	UN2440	III	CORROSIVE		154	213	240	25 kg	100 kg	A	
	Stannic phosphide	4.3	UN1433	I	DANGEROUS WHEN WET, POISON.	A19, B100, N40	None	211	242	Forbidden	15 kg	E	40, 85
	Steel swarf, see Ferrous metal borings, etc.												
	Sibine	2.3	UN2676	I	POISON GAS, FLAM- MABLE GAS.	1	None	304	None	Forbidden	Forbidden	D	40
	Storage batteries, wet, see Batteries, wet etc.												
	Strontium arsenite	6.1	UN1691	II	POISON		None	212	242	25 kg	100 kg	A	56, 58, 106
	Strontium chlorate	5.1	UN1506	III	OXIDIZER	A1, A9, N34	152	212	242	5 kg	25 kg	A	
	Strontium nitrate	5.1	UN1507	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	
	Strontium perchlorate	5.1	UN1508	II	OXIDIZER		152	212	242	5 kg	25 kg	A	56, 58, 106
	Strontium peroxide	5.1	UN1509	II	OXIDIZER		152	212	242	5 kg	25 kg	A	13, 75, 106
	Strontium phosphide	4.3	UN2013	I	DANGEROUS WHEN WET, POISON.	A19, N40	None	211	None	Forbidden	15 kg	E	40, 85
	Strychnine or Strychnine salts	6.1	UN1692	I	POISON		None	211	242	5 kg	50 kg	A	40
	Styrenic acid, see Trinitroresorcinol, etc.												
	Styrene monomer, inhibited	3	UN2055	III	FLAMMABLE LIQUID	B1, T1	150	203	242	80 L	220 L	A	2E, 8E, 11E,
	Substances, explosive, n.o.s.	1.1L	UN0357	II	EXPLOSIVE 1.1L	101	None	62	None	Forbidden	Forbidden	E	17E
	Substances, explosive, n.o.s.	1.2L	UN0358	II	EXPLOSIVE 1.2L	101	None	62	None	Forbidden	Forbidden	E	2E, 8E, 11E,
	Substances, explosive, n.o.s.	1.3L	UN0359	II	EXPLOSIVE 1.3L	101	None	62	None	Forbidden	Forbidden	E	17E
	Substances, explosive, n.o.s.	1.1A	UN0473	II	EXPLOSIVE 1.1A	101, 111	None	62	None	Forbidden	Forbidden	E	2E, 8E
	Substances, explosive, n.o.s.	1.1C	UN0474	II	EXPLOSIVE 1.1C	101	None	62	None	Forbidden	Forbidden	E	1E, 5E
	Substances, explosive, n.o.s.	1.1D	UN0475	II	EXPLOSIVE 1.1D	101	None	62	None	Forbidden	Forbidden	B	1E, 5E
	Substances, explosive, n.o.s.	1.1G	UN0476	II	EXPLOSIVE 1.1G	101	None	62	None	Forbidden	Forbidden	E	1E, 8E
	Substances, explosive, n.o.s.	1.3C	UN0477	II	EXPLOSIVE 1.3C	101	None	62	None	Forbidden	Forbidden	B	1E, 8E
	Substances, explosive, n.o.s.	1.3G	UN0478	II	EXPLOSIVE 1.3G	101	None	62	None	Forbidden	Forbidden	E	1E, 8E
	Substances, explosive, n.o.s.	1.4C	UN0479	II	EXPLOSIVE 1.4C	101	None	62	None	Forbidden	75 kg	A	1E, 5E, 24E
	Substances, explosive, n.o.s.	1.4D	UN0480	II	EXPLOSIVE 1.4D	101	None	62	None	Forbidden	75 kg	A	
	Substances, explosive, n.o.s.	1.4S	UN0481	II	EXPLOSIVE 1.4S	101	None	62	None	Forbidden	75 kg	E	1E, 8E
	Substances, explosive, n.o.s.	1.4G	UN0485	II	EXPLOSIVE 1.4G	101	None	62	None	Forbidden	75 kg	B	1E, 5E
	Substituted nitrophenol pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	1.5D	UN0482	II	EXPLOSIVE 1.5D	101	None	62	None	Forbidden	Forbidden	B	
	Substituted nitrophenol pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	3	UN2780	I	FLAMMABLE LIQUID, POISON.		None	201	243	Forbidden	30 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic			II	FLAMMABLE LIQUID, POISON.		None	202	243	1 L	60 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C			III	FLAMMABLE LIQUID, KEEP AWAY FROM FOOD.	B1	150	203	242	60 L	220 L	A	
	Substituted nitrophenol pesticides, liquid, toxic	6.1	UN3014	I	POISON	T42	None	201	243	1 L	30 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C			II	POISON	T14	None	202	243	5 L	60 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C			III	KEEP AWAY FROM FOOD.	T14	153	203	241	60 L	220 L	A	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C	6.1	UN3013	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C			II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	B	40
	Substituted nitrophenol pesticides, liquid, toxic, flammable flashpoint not less than 23 degrees C			III	KEEP AWAY FROM FOOD, FLAMMABLE LIQUID.	B1, T14	153	203	242	60 L	220 L	A	40
	Substituted nitrophenol pesticides, solid, toxic	6.1	UN2779	I	POISON		None	211	242	5 kg	50 kg	A	40
	Substituted nitrophenol pesticides, solid, toxic			II	POISON		None	212	242	25 kg	100 kg	A	40

UN Number	Proper Shipping Name	Quantity	Labeling	Special Provisions	HAZARDOUS MATERIALS TABLE	Section	Quantity	Labeling	Special Provisions
UN1828	Sulfur chlorides, loose mixtures of	Forbidden	III	KEEP AWAY FROM FOOD.	153	240	100 kg	200 kg	A
UN1829	Sulfur trioxide, inhibited	8	I	CORROSIVE, POISON	201	244	Forbidden	25 kg	A
UN1831	Sulfur trioxide, uninhibited	8	I	CORROSIVE	201	243	Forbidden	2.5 L	C
UN1832	Sulfuric acid, spent	8	II	CORROSIVE	202	242	Forbidden	30 L	C
UN1833	Sulfuric acid with more than 51 percent acid	8	II	CORROSIVE	202	242	1 L	30 L	C
UN1834	Sulfuric acid with not more than 51 percent acid	8	II	CORROSIVE	202	242	1 L	30 L	B
UN1989	Tars, liquid including road asphalt and oils, bitumen and cut backs	3	II	FLAMMABLE LIQUID	150	242	5 L	60 L	B
UN1700	Tear gas candles	6.1	III	POISON, FLAMMABLE SOLID	340	None	Forbidden	50 kg	D
UN1693	Tear gas devices, with not more than 2 percent tear gas substances, by mass, see Aerosols, etc.	6.1	I	POISON	201	None	Forbidden	Forbidden	D
UN2319	Terpene hydrocarbons, n.o.s.	3	III	FLAMMABLE LIQUID	150	242	60 L	220 L	A
UN2541	Terpinolene	3	III	FLAMMABLE LIQUID	150	242	60 L	220 L	A
UN2504	Tetraazido benzene quinine	Forbidden	III	KEEP AWAY FROM FOOD.	153	241	60 L	220 L	A
UN2504	Tetrabromoethane	6.1	III	KEEP AWAY FROM FOOD.	153	241	60 L	220 L	A

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (\$173.***)			(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
D	Tetrachloroethane	6.1	UN1702	II	POISON	N36, T14	None	202	243	5 L	60 L	A	40
	Tetrachloroethylene	6.1	UN1897	III	KEEP AWAY FROM FOOD	N36, T1	153	203	241	60 L	220 L	A	40
D	Tetraethyl dithiophosphate	6.1	UN1704	II	POISON		None	212	242	25 kg	100 kg	D	40
	Tetraethyl lead, liquid	6.1	NA1649	I	POISON; FLAMMABLE LIQUID		None	201	None	Forbidden	Forbidden	E	40
D	Tetraethyl pyrophosphate, liquid	5.1	NA3018	I	POISON		None	201	243	Forbidden	1 L	A	40
	Tetraethyl pyrophosphate solid	5.1	NA2783	I	POISON	N77	None	211	242	Forbidden	50 kg	A	40
D	Tetraethyl silicate	3	UN1292	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Tetraethylammonium perchlorate (dry)	Forbidden											
D	Tetraethylpiperazine	8	UN2320	III	CORROSIVE	T2	154	203	241	5 L	60 L	A	40
	1,1,1,2-Tetrafluoroethane	2.2	UN3159	III	NONFLAMMABLE GAS		306	304	314, 315	75 kg	150 kg	A	40
D	Tetrafluoroethylene, inhibited	2.1	UN1081	II	FLAMMABLE GAS		306	304	315	Forbidden	150 kg	E	40
	Tetrafluoromethane, R14	2.2	UN1982	II	NONFLAMMABLE GAS		None	302	None	75 kg	150 kg	A	40
D	1,2,3,6-Tetrahydrobenzaldehyde	3	UN2498	III	FLAMMABLE LIQUID	B1, T1	150	202	242	60 L	220 L	A	40
	Tetrahydrofuran	3	UN2056	III	FLAMMABLE LIQUID	T8	None	202	242	5 L	80 L	B	40
D	Tetrahydrofurfurylamine	3	UN2943	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Tetrahydrofthalic anhydrides with more than 0.05 percent of maleic anhy- dride	8	UN2698	III	CORROSIVE		154	213	240	25 kg	100 kg	A	40
D	1,2,3,6-Tetrahydropyridine	3	UN2410	III	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Tetrahydrothiophene	3	UN2412	III	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40
D	Tetramethylammonium hydroxide	8	UN1835	III	CORROSIVE	B2, T8	154	202	242	1 L	30 L	A	40
	Tetramethylene diperiodate dicarbamide	Forbidden											
D	Tetramethylsilane	3	UN2749	I	FLAMMABLE LIQUID	T21, T26	None	201	243	Forbidden	30 L	D	40
	Tetranitro diglycerin	Forbidden											
D	Tetranitroamine	1.1D	UN2027	II	EXPLOSIVE 1.1D		None	62	None	Forbidden	Forbidden	B	1E, 5E
	Tetranitromethane	5.1	UN1510	I	OXIDIZER, POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	None	Forbidden	Forbidden	D	40, 66, 106
D	2,3,4,6-Tetranitrophenol	Forbidden											
	2,3,4,6-Tetranitrophenyl methyl nitramine	Forbidden											
D	2,3,4,6-Tetranitrophenyl nitramine	Forbidden											
	Tetranitroresorcinol (dry)	Forbidden											
D	2,3,5,6-Tetranitroso-1,4-dinitrobenzene	Forbidden											
	2,3,5,6-Tetranitroso nitrobenzene (dry)	Forbidden											
D	Tetrapropylorthotitanate	3	UN2413	III	FLAMMABLE LIQUID	B1, T8	150	203	242	60 L	220 L	A	40
	Tetrazene, see Guanyl nitrosaminoguanyltetrazene	Forbidden											
D	Tetrazine (dry)	1.4C	UN0407	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	1E, 5E, 24E
	Tetrazolyl azide acid	Forbidden											
D	Tetrazolyl azide (dry)	1.4C	UN0407	II	EXPLOSIVE 1.4C		None	62	None	Forbidden	75 kg	A	1E, 5E, 24E
	Tetrazolyl methyl nitramine	Forbidden											
D	Thallium chloride	5.1	UN2573	III	OXIDIZER, POISON		None	212	242	5 kg	25 kg	A	56, 58, 106
	Thallium compounds, n.o.s.	6.1	UN1707	III	POISON		None	212	242	25 kg	100 kg	A	56, 58, 106
D	Thallium nitrate	6.1	UN2727	III	POISON, OXIDIZER		None	212	242	5 kg	25 kg	A	56, 58, 106
	Thallium sulfate, solid	6.1	NA1707	III	POISON		None	212	242	5 kg	50 kg	A	56, 58, 106
D	4-Thiaphental	6.1	UN2785	III	KEEP AWAY FROM FOOD	T8	153	203	241	60 L	220 L	D	25, 49
	Thioacetic acid	3	UN2436	II	FLAMMABLE LIQUID		150	202	242	5 L	60 L	B	40
D	Thiocarbonylchloride, see Thiophosgene	6.1	UN2966	III	POISON	T8	None	202	243	5 L	60 L	A	40
	Thioglycol	8	UN1940	III	CORROSIVE	A7, B2, N34, T8	154	202	242	1 L	30 L	A	40
D	Thioglycolic acid	6.1	UN2936	III	POISON	T8	None	212	242	25 kg	100 kg	A	40
	Thiolic acid	8	UN1836	I	CORROSIVE	A7, B6, B10, N34, T42	None	201	243	Forbidden	Forbidden	C	40
D	Thionyl chloride	3	UN2414	II	FLAMMABLE LIQUID		150	202	242	5 L	60 L	B	40
	Thiophene	6.1	UN2474	II	POISON	B101, T2	None	227	244	Forbidden	60 L	B	40
D	Thiophosgene	8	UN1837	II	CORROSIVE	2, A7, B9, B14, B32, B74, N33, N34, T38, T43, T45	None	202	242	Forbidden	30 L	C	40
	Thiophosphoryl chloride	8	UN1837	II	CORROSIVE	A3, A7, B2, B9, B25, B101, N34, T12	None	202	242	Forbidden	30 L	C	40

Chemical Name	UN Number	Section	Classification	Quantity	Other	Regulation	Label	Other
Thorium metal, pyrophoric	7 UN2975		RADIOACTIVE, SPONTANEOUSLY COMBUSTIBLE	None		418	Forbidden	D
Thorium nitrate, solid	7 UN2976		RADIOACTIVE, OXIDIZER	None		419	Forbidden	A
Tin chloride, fuming, see Stannic chloride, anhydrous								
Tin perchlorate or Tin tetrachloride, see Stannic chloride, anhydrous								
Tinctures, medicinal	3 UN1293	II	FLAMMABLE LIQUID	150	T8, T31	202	5 L	B
Tinning flux, see Zinc chloride								
Titanium disulphide	4.2 UN3174	III	SPONTANEOUSLY COMBUSTIBLE	None	B1, T7, T30	203	242 60 L	A
Titanium hydride	4.1 UN1871	II	FLAMMABLE SOLID	None	A19, A20, N34	213	241 25 kg	A
Titanium powder, dry	4.2 UN2546	I	SPONTANEOUSLY COMBUSTIBLE	None		212	241 15 kg	E
		II	SPONTANEOUSLY COMBUSTIBLE	None		211	242 Forbidden	D
		III	SPONTANEOUSLY COMBUSTIBLE	None		212	241 15 kg	D
		III	SPONTANEOUSLY COMBUSTIBLE	None		213	241 25 kg	D
Titanium powder, wetted with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	4.1 UN1352	II	FLAMMABLE SOLID	None	A19, A20, N34	212	240 15 kg	E
Titanium sponge granules or Titanium sponge powders	4.1 UN2878	III	FLAMMABLE SOLID	None	A1	213	240 25 kg	D
Titanium sulfate solution	8 NA1760	II	CORROSIVE	None	B2, B15	202	242 1 L	B
Titanium tetrachloride	8 UN1838	II	CORROSIVE, POISON	None	2, A3, A6, B7, B9, B14, B32, B41, B74, B77, N41, T38, T43, T45	227	244 Forbidden	C
Titanium trichloride mixtures	8 UN2869	II	CORROSIVE	154	A7, B106, N34	212	240 15 kg	A
Titanium trichloride, pyrophoric or Titanium trichloride mixtures, pyrophoric	4.2 UN2441	III	CORROSIVE	154	A7, N34	213	240 25 kg	A
		I	SPONTANEOUSLY COMBUSTIBLE, CORROSIVE	None	A7, A8, A19, A20, N34	181	244 Forbidden	D
TNT mixed with aluminum, see Tritonal								
TNT, see Trinitrotoluene, etc.								
Toluene	3 UN1294	II	FLAMMABLE LIQUID	150	T1	202	5 L	B
Toluene diisocyanate	6.1 UN2078	II	POISON	None	B110, T14	202	243 5 L	D
Toluene sulfonic acid, see Alkyl, aryl sulfonic acid etc.								
Toluidines liquid	6.1 UN1708	II	POISON	None	T14	202	243 5 L	A
Toluidines solid	6.1 UN1708	II	POISON	None	T14	212	242 25 kg	A
2,4-Toluidinediamine or 2,4-Toluenediamine	6.1 UN1709	III	KEEP AWAY FROM FOOD	153	T7	213	240 100 kg	A
Torpedoes, liquid fueled, with inert head	1.3J UN0450	II	EXPLOSIVE 1.3J	None		62	None	E
Torpedoes, liquid fueled, with or without bursting charge	1.1J UN0449	II	EXPLOSIVE 1.1J	None		62	None	E
Torpedoes with bursting charge	1.1E UN0328	II	EXPLOSIVE 1.1E	None		62	None	B
Torpedoes with bursting charge	1.1F UN0330	II	EXPLOSIVE 1.1F	None		62	None	B
Torpedoes with bursting charge	1.1D UN0451	I	EXPLOSIVE 1.1D	None		62	None	B
Toxic liquid, corrosive, inorganic, n.o.s.	6.1 UN3289	I	POISON, CORROSIVE	None	T42	201	243 0.5 L	A
		II	POISON, CORROSIVE	None	T14	202	243 1 L	A
Toxic liquid, corrosive, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone A	6.1 UN3289	I	POISON, CORROSIVE	None	1, B9, B14, B30, B72, T38, T43, T44	226	244 Forbidden	B
Toxic liquid, corrosive, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone B	6.1 UN3289	I	POISON, CORROSIVE	None	2, B9, B14, B32, B74, T38, T43, T45	227	244 Forbidden	B
Toxic liquid, inorganic, n.o.s.	6.1 UN3287	I	POISON	None	T46	201	243 1 L	A
		II	POISON	None	T14	202	243 5 L	A
		III	KEEP AWAY FROM FOOD	153	T7	203	241 60 L	A
Toxic liquid, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone A	6.1 UN3287	I	POISON	None	1, B9, B14, B30, B72, T38, T43, T44	226	244 Forbidden	B
Toxic liquid, inorganic, n.o.s. Inhalation Hazard, Packing Group I, Zone B	6.1 UN3287	I	POISON	None	2, B9, B14, B32, B74, T38, T43, T45	227	244 Forbidden	B
Toxic liquids, corrosive, organic, n.o.s.	6.1 UN2827	I	POISON, CORROSIVE	None	T42	201	243 0.5 L	B
		II	POISON, CORROSIVE	None	T42	202	243 1 L	B

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym-bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	Special provisions	(8) Packaging authorizations (§173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							Excep- tions (8A)	Non- bulk pack- aging (8B)	Bulk pack- aging (8C)	Passenger aircraft or railcar (9A)	Cargo air- craft only (9B)	Vessel stow- age provi- sions (10A)	Other stow- age provi- sions (10B)
	Toxic liquids, corrosive, organic, n.o.s., Inhalation hazard, Packing Group I, Zone A	6.1	UN2927	I	POISON, CORROSIVE	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, corrosive, organic, n.o.s., Inhalation hazard, Packing Group I, Zone B	6.1	UN2927	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, flammable, organic, n.o.s.	6.1	UN2929	I	POISON, FLAMMABLE LIQUID.	T42	None	201	243	1 L	30 L	B	40
	.....		.....	II	POISON, FLAMMABLE LIQUID.	T15	None	202	243	5 L	60 L	B	40
	Toxic liquids, flammable, organic, n.o.s., Inhalation hazard, Packing Group I, Zone A	6.1	UN2929	I	POISON, FLAMMABLE LIQUID.	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, flammable, organic, n.o.s., Inhalation hazard, Packing Group I, Zone B	6.1	UN2929	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic, liquids, organic, n.o.s.	6.1	UN2810	II	POISON	T42	None	201	243	1 L	30 L	B	40
	.....		.....	III	POISON	T14	None	202	243	5 L	60 L	B	40
	.....		.....	III	KEEP AWAY FROM FOOD.	T7	153	203	241	60 L	220 L	A	40
	Toxic, liquids, organic, n.o.s. Inhalation hazard, Packing Group I, Zone A	6.1	UN2810	I	POISON	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic, liquids, organic, n.o.s. Inhalation hazard, Packing Group I, Zone B	6.1	UN2810	I	POISON	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	D	20, 40, 95
	Toxic liquids, oxidizing, n.o.s.	6.1	UN3122	I	POISON, OXIDIZER	A4	None	201	243	Forbidden	2.5 L	C	
	.....		.....	II	POISON, OXIDIZER	.....	None	202	243	1 L	5 L	C	
	Toxic liquids, oxidizing, n.o.s. Inhalation hazard, Packing Group I, Zone A	6.1	UN3122	I	POISON, OXIDIZER	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	2.5 L	C	
	Toxic liquids, oxidizing, n.o.s. Inhalation Hazard, Packing Group I, Zone B	6.1	UN3122	I	POISON, OXIDIZER	2, B9, B14, B32, T38, T43, T45.	None	227	244	Forbidden	Forbidden	C	
	Toxic liquids, water-reactive, n.o.s.	6.1	UN3123	I	POISON, DANGEROUS WHEN WET.	A4	None	201	243	Forbidden	1 L	E	40
	.....		.....	II	POISON, DANGEROUS WHEN WET.	.....	None	202	243	1 L	5 L	E	40
	Toxic liquids, water-reactive, n.o.s. Inhalation hazard, packing group I, Zone A	6.1	UN3123	I	POISON, DANGEROUS WHEN WET.	1, B9, B14, B30, B72, T38, T43, T44.	None	226	244	Forbidden	Forbidden	E	40
	Toxic liquids, water-reactive, n.o.s. Inhalation hazard, packing group I, Zone B	6.1	UN3123	I	POISON, DANGEROUS WHEN WET.	2, B9, B14, B32, B74, T38, T43, T45.	None	227	244	Forbidden	Forbidden	E	40
	Toxic solid, corrosive, inorganic, n.o.s.	6.1	UN3290	II	POISON, CORROSIVE	.....	None	211	242	1 kg	25 kg	A	
	.....		.....	III	POISON, CORROSIVE	.....	None	212	242	15 kg	50 kg	A	
	Toxic solid, inorganic, n.o.s.	6.1	UN3288	II	POISON	.....	None	211	242	5 kg	50 kg	A	
	.....		.....	III	POISON	.....	None	212	242	25 kg	100 kg	A	
	.....		.....	III	KEEP AWAY FROM FOOD.	.....	153	213	240	100 kg	200 kg	A	
	Toxic solids, corrosive, organic, n.o.s.	6.1	UN2928	II	POISON, CORROSIVE	.....	None	211	242	1 kg	25 kg	B	40
	.....		.....	III	POISON, CORROSIVE	.....	None	212	242	15 kg	50 kg	B	40
	Toxic solids, flammable, organic, n.o.s.	6.1	UN2930	I	POISON, FLAMMABLE SOLID.	B106	None	211	242	1 kg	15 kg	B	
	.....		.....	II	POISON, FLAMMABLE SOLID.	B106	None	212	242	15 kg	50 kg	B	
	Toxic solids, organic, n.o.s.	6.1	UN2811	II	POISON	.....	None	211	242	5 kg	50 kg	B	
	.....		.....	III	POISON	.....	None	212	242	25 kg	100 kg	B	

UN Number	Proper Shipping Name	Section	Label Code	Quantity	Special Provisions	Other	UN Number	Proper Shipping Name	Section	Label Code	Quantity	Special Provisions	Other
6.1	Toxic solids, oxidizing, n.o.s.	III	6.1	200 kg	KEEP AWAY FROM FOOD.	UN3086	213	None	153	A	240	100 kg	200 kg
6.1	Toxic solids, self-heating, n.o.s.	II	6.1	15 kg	POISON, OXIDIZER	UN3124	211	None	None	C	242	1 kg	15 kg
6.1	Toxic solids, water-reactive, n.o.s.	II	6.1	50 kg	POISON, OXIDIZER		212	None	None	C	242	15 kg	50 kg
6.1	Toxic solids, water-reactive, n.o.s.	II	6.1	15 kg	POISON, SPONTANEOUSLY COMBUSTIBLE.		211	None	None	D	242	5 kg	15 kg
6.1	Toxic solids, water-reactive, n.o.s.	II	6.1	50 kg	POISON, SPONTANEOUSLY COMBUSTIBLE.		212	None	None	D	242	15 kg	50 kg
1.4S	Toy Caps	II	1.4S	15 kg	POISON; DANGEROUS WHEN WET.	UN3125	211	None	None	D	242	5 kg	15 kg
1.3G	Tracers for ammunition	II	1.4S	50 kg	POISON; DANGEROUS WHEN WET.		212	None	None	D	242	15 kg	50 kg
1.4G	Tracers for ammunition	II	1.4S	100 kg	EXPLOSIVE 1.4S		82	None	None	A	None	25 kg	100 kg
Forbidden	Tracers, see Vehicles, self-propelled	II	1.3G	Forbidden	EXPLOSIVE 1.3G		82	None	None	B	None	Forbidden	Forbidden
6.1	Tri-nitroxyethyl ammonium nitrate	III	6.1	75 kg	EXPLOSIVE 1.4G		82	None	None	A	None	Forbidden	75 kg
6.1	Triallyl borate	III	6.1	220 L	KEEP AWAY FROM FOOD.	UN2609	203	153	153	A	241	60 L	220 L
3	Triethylamine	III	3	60 L	KEEP AWAY FROM FOOD.	UN2610	203	None	None	A	242	5 L	60 L
3	Triazine pesticides, liquid, flammable, toxic, flash point less than 23 degrees C	I	3	30 L	FLAMMABLE LIQUID, CORROSIVE.	UN2764	201	None	None	B	243	Forbidden	30 L
6.1	Triazine pesticides, liquid, toxic	II	6.1	60 L	FLAMMABLE LIQUID, POISON.		202	None	None	B	243	1 L	60 L
6.1	Triazine pesticides, liquid, toxic, flammable, flashpoint not less than 23 degrees C	III	6.1	220 L	FLAMMABLE LIQUID, POISON.		203	150	150	A	242	60 L	220 L
6.1	Triazine pesticides, liquid, toxic	I	6.1	30 L	KEEP AWAY FROM FOOD.	UN2998	201	None	None	B	243	1 L	30 L
6.1	Triazine pesticides, liquid, toxic	II	6.1	60 L	POISON		202	None	None	B	243	5 L	60 L
8	Tributylamine	III	8	220 L	KEEP AWAY FROM FOOD.	UN2997	203	153	153	A	241	60 L	220 L
4.2	mono-(Trichloro) tetra-(monopotassium dichloro)-penta-s-triazinethione, dry (with more than 39 percent available chlorine)	III	4.2	50 kg	KEEP AWAY FROM FOOD.		203	None	None	B	243	1 L	30 L
5.1	Trichloro-s-triazinethione dry, with more than 39 percent available chlorine, see Trichloroacetic acid, dry	III	5.1	100 kg	KEEP AWAY FROM FOOD.		203	None	None	B	243	5 L	60 L
8	Trichloroacetic acid	III	8	200 kg	KEEP AWAY FROM FOOD.		203	None	None	A	241	60 L	220 L
8	Trichloroacetic acid, solution	III	8	60 L	KEEP AWAY FROM FOOD.		203	None	None	A	241	5 L	60 L
8	Trichloroacetyl chloride	III	8	Forbidden	CORROSIVE	UN2642	203	None	None	D	242	Forbidden	Forbidden
6.1	Trichlorobenzenes, liquid	III	6.1	25 kg	SPONTANEOUSLY COMBUSTIBLE.	NA2468	212	152	152	A	240	5 kg	25 kg
6.1	1,1,1-Trichloroethane	III	6.1	50 kg	OXIDIZER		212	154	154	A	240	5 kg	50 kg
6.1	Trichloroethylene	III	6.1	30 L	CORROSIVE		202	154	154	B	242	1 L	30 L
5.1	Trichloroacetic acid, dry	III	5.1	60 L	CORROSIVE		203	154	154	B	241	5 L	60 L
4.3	Trichloromethyl perchlorate	I	4.3	Forbidden	CORROSIVE		203	None	None	D	244	Forbidden	Forbidden
4.3	Trichlorosilane	I	4.3	25 kg	CORROSIVE		203	None	None	D	244	Forbidden	Forbidden
6.1	Tricresyl phosphate with more than 3 percent ortho isomer	III	6.1	60 L	CORROSIVE		203	153	153	A	241	60 L	220 L
3	Triethyl phosphite	III	3	25 kg	KEEP AWAY FROM FOOD.	UN2574	203	153	153	A	241	60 L	220 L
3	Triethyl phosphite	III	3	60 L	POISON	UN2323	203	153	153	A	241	60 L	220 L

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21, 28, 40, 49, 100

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.***)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(9A) Passenger aircraft or railcar	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions	
	Triethylamine	3	UN1296	II	FLAMMABLE LIQUID, CORROSIVE.	B101, T8	None	202	243	1 L	5 L	B	40
	Triethylenetriamine	3	UN2259	II	CORROSIVE.	B2, T8	154	202	242	1 L	30 L	B	40
	Trifluoroacetic acid	8	UN2959	I	CORROSIVE	A3, A6, A7, B4, N3, N34, T18, T27, 2, 25, B9, B14	None	201	243	0.5 L	2.5 L	B	12, 40
	Trifluoroacetyl chloride	2.3	UN3057		POISON GAS		None	304	314, 315	Forbidden	Forbidden	D	40
	Trifluorochloroethylene, inhibited, R1113	2.3	UN1082		POISON GAS	3, 25, B14	None	304	314, 315	Forbidden	150 kg	B	40
	Trifluoroethane, compressed, R143	2.1	UN2035		FLAMMABLE GAS		308	304	314, 315	Forbidden	150 kg	B	40
	Trifluoromethane	2.2	UN1984		NONFLAMMABLE GAS		308	304	314, 315	Forbidden	150 kg	A	
D	Trifluoromethane and chlorotrifluoromethane mixture (constant boiling mixture) (R-509). See Refrigerant gases, n.o.s.												
	Trifluoromethane, refrigerated liquid	2.2	UN3138		NONFLAMMABLE GAS		306	None	314, 315	50 kg	500 kg	D	
	2-Trifluoromethylaniline	6.1	UN2942	III	KEEP AWAY FROM FOOD.		153	203	241	60 L	280 L	A	
	3-Trifluoromethylaniline	6.1	UN2948	II	POISON	T14	None	202	243	5 L	60 L	A	40
	Trifluoromethylamine	Forbidden	UN2924	III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	
	Trifluoromethylamine, anhydrous	6.1	UN2906	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Trifluoromethylamine, aqueous solutions with not more than 50 percent trifluoromethylamine by mass	3	UN2616	III	FLAMMABLE LIQUID	T8, T31	150	202	242	60 L	220 L	A	
	1,3,5-Trimethyl-2,4,6-trinitrobenzene	Forbidden	UN2616	III	FLAMMABLE LIQUID	B1, T8, T31	150	203	242	60 L	220 L	A	
D	Trimethylacetyl chloride	6.1	NA9269	I	POISON, FLAMMABLE LIQUID.	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	Forbidden	Forbidden	E	40
	Trimethylamine	3	UN2416	II	FLAMMABLE LIQUID	T14	150	202	242	5 L	60 L	B	
	Trimethylamine, anhydrous	3	UN2329	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	
	Trimethylamine, aqueous solutions with not more than 50 percent trimethylamine by mass	6.1	UN2438	I	POISON, CORROSIVE, FLAMMABLE LIQUID.	2, A3, A6, A7, B3, B9, B14, B32, B74, N34, T38, T43, T45	None	227	244	Forbidden	Forbidden	D	25, 40
	Trimethylamine, anhydrous	2.1	UN1083		FLAMMABLE GAS		306	304	314, 315	Forbidden	150 kg	B	40
	Trimethylamine, aqueous solutions with not more than 50 percent trimethylamine by mass	3	UN1297	I	FLAMMABLE LIQUID, CORROSIVE.	T42	None	201	243	0.5 L	2.5 L	D	40, 41
	1,3,5-Trimethylbenzene	3	UN2325	III	FLAMMABLE LIQUID, CORROSIVE.	B1, T14	None	202	243	1 L	5 L	B	40, 41
	Trimethylchlorosilane	3	UN1298	III	FLAMMABLE LIQUID, CORROSIVE.	B1	150	203	242	5 L	60 L	A	40, 41
	Trimethylcyclohexylamine	8	UN2326	III	FLAMMABLE LIQUID	B1, T1	None	203	242	60 L	220 L	A	
	Trimethylcyclohexylamine	3	UN1298	II	FLAMMABLE LIQUID, CORROSIVE.	A3, A7, B77, N34, T14, T26	None	202	243	1 L	5 L	E	40
	Trimethylhexamethylene diisocyanate	Forbidden	UN2326	III	CORROSIVE	T2	154	203	241	5 L	60 L	A	
	Trimethylhexamethylenediamines	8	UN2327	III	KEEP AWAY FROM FOOD.	T8	153	203	241	60 L	220 L	B	
	Trimethyl nitromethane trinitrate	Forbidden	UN2327	III	CORROSIVE	T7	154	203	241	5 L	60 L	A	
	2,4,6-Trinitro-1,3-dioxobenzene	1.1D	UN0216	II	EXPLOSIVE 1.1D		None	82	None	Forbidden	Forbidden	B	1E, 5E
	2,4,6-Trinitro-1,3-dioxobenzene	Forbidden											
	2,4,6-Trinitro-1,3,5-triazido benzene (dry)	Forbidden											
	Trinitroacetic acid	Forbidden											
	Trinitroacetone	Forbidden											
	Trinitroacetone	Forbidden											
	Trinitroacetone cobalt	Forbidden											
	Trinitroacetone or Picramide	1.1D	UN0153	II	EXPLOSIVE 1.1D		None	82	None	Forbidden	Forbidden	B	1E, 5E
	Trinitroacetone	1.1D	UN0213	II	EXPLOSIVE 1.1D		None	82	None	Forbidden	Forbidden	B	1E, 5E
	Trinitrobenzene, dry or wetted with less than 30 percent water, by mass	1.1D	UN0214	II	EXPLOSIVE 1.1D		None	82	None	Forbidden	Forbidden	B	1E, 5E

UN Number	Description	Class	Label	Substance	Quantity	Other	Exemption	Special
UN1354	Tribromobenzene, wetted with not less than 30 percent water, by mass	4.1	1.1D	FLAMMABLE SOLID	None	23, A2, A8, A19, N41	None	211
UN0386	Tribromobenzenesulfonic acid	1.1D	1.1D	EXPLOSIVE 1.1D	None		None	62
UN0215	Tribromobenzoic acid, dry or wetted with less than 30 percent water, by mass	1.1D	1.1D	EXPLOSIVE 1.1D	None		None	62
UN1355	Tribromobenzoic acid, wetted with not less than 30 percent water, by mass	4.1	1.1D	FLAMMABLE SOLID	None	23, A2, A8, A19, N41	None	211
UN0165	Tribromochlorobenzene or Picryl chloride	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0387	Tribromoethanol	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0217	Tribromofluorenone	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0218	Tribromomethane	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0154	Tribromonaphthalene	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN1344	Tribromonitrophenol or Picric acid, dry or wetted with less than 30 percent water, by mass	4.1	Forbiddn	EXPLOSIVE 1.1D	None	23, A8, A19, N41	None	211
UN0208	Tribromonitrophenol, wetted with not less than 30 percent water, by mass	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0219	Tribromonitrophenyl guanidine (dry)	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0384	Tribromonitrophenyl nitramine	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0388	2,4,6-Tribromophenyl nitramine	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0389	2,4,6-Tribromophenyl dimethyl methyl nitramine trinitrate (dry)	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN0209	Tribromophenyl nitramine or Tetryl	1.1D	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN1356	Tribromoresorcinol or Styphnic acid, dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass	4.1	Forbiddn	EXPLOSIVE 1.1D	None	23, A2, A8, A19, N41	None	211
UN2260	Tribromoresorcinol, wetted or Styphnic acid, wetted with not less than 20 percent water, or mixture of alcohol and water by mass	3	3	FLAMMABLE LIQUID, CORROSIVE	150	B1, T8	None	203
UN2057	2,4,6-Tribromo-3-methyl nitraminoanisole	3	3	FLAMMABLE LIQUID	150	T1	None	202
UN2501	Tribromotoluene and Tinitrobenzene mixtures or TNT and tinitrobenzene mixtures or TNT and hexanitrostilbene mixtures or Tinitrotoluene and hexanitrostilbene mixtures	6.1	6.1	FLAMMABLE LIQUID	150	T1	None	203
UN0390	Tribromotoluene mixtures containing Tinitrobenzene and Hexanitrostilbene or TNT mixtures containing tinitrobenzene and hexanitrostilbene	Forbiddn	Forbiddn	EXPLOSIVE 1.1D	None		None	62
UN2196	Tribromotoluene or TNT, dry or wetted with less than 30 percent water, by mass	1.1D	2.3	EXPLOSIVE 1.1D	None		None	338
UN1298	Tribromotoluene, wetted with not less than 30 percent water, by mass	3	3	FLAMMABLE LIQUID	150	T1	None	203
UN1300	Tripropylamine	3	3	FLAMMABLE LIQUID	150	T1	None	201
UN2330	Tripropylene	3	3	FLAMMABLE LIQUID	150	T1	None	202
UN2978	Tris-(1-aziridinyl)phosphine oxide, solution	7	7	POISON	150	T8	None	203
UN2977	Tris, bis-bifluoroamino diethoxy propane (TVOPA)	7	7	KEEP AWAY FROM FOOD	153	T7	None	203
UN2979	Tritonal	7	7	EXPLOSIVE 1.1D	None		None	62
UN2980	Tungsten hexafluoride	7	7	EXPLOSIVE 1.1D	None		None	338
UN2981	Turpentine	7	7	POISON GAS, CORROSIVE	None		None	62
UN2982	Turpentine substitute	7	7	SIVE	None		None	62
UN2983	Urethane	7	7	FLAMMABLE LIQUID	453	B1, T1	None	417
UN2984	Uranium hexafluoride, fissile excepted or non-fissile	7	7	FLAMMABLE LIQUID	420		None	418
UN2985	Uranium hexafluoride, fissile (with more than 1 percent U-235)	7	7	FLAMMABLE LIQUID	420		None	418
UN2986	Uranium metal, pyrophoric	7	7	RADIOACTIVE, CORROSIVE	None		None	418
UN2987	Uranium nitrate hexahydrate solution	7	7	RADIOACTIVE, CORROSIVE	None		None	418
UN2988	Uranium nitrate, solid	7	7	RADIOACTIVE, CORROSIVE	None		None	418
UN2989	Urea hydrogen peroxide	5.1	5.1	RADIOACTIVE, OXIDIZER	None		None	418
UN2990	Urea nitrate, dry or wetted with less than 20 percent water, by mass	1.1D	1.1D	OXIDIZER, CORROSIVE	152	A1, A7, A29	None	213
UN2991	Urea nitrate, wetted with not less than 20 percent water, by mass	4.1	4.1	EXPLOSIVE 1.1D	None		None	62
UN2992	Urea peroxide, see Urea hydrogen peroxide	4.1	4.1	FLAMMABLE SOLID	None	39, A8, A19, N41	None	211
UN2993	Valeraldehyde	3	3	FLAMMABLE LIQUID	150	T1	None	202
UN2994	Valeric acid, see Corrosive liquids, n.o.s.	3	3	FLAMMABLE LIQUID	150	T1	None	202
UN2995	Valeryl chloride	3	3	FLAMMABLE LIQUID	150	T1	None	202
UN2996	Vanadium compound, n.o.s.	6.1	6.1	CORROSIVE, FLAMMABLE LIQUID	154	A3, A6, A7, B2, N34, T8	None	202
UN2997	Vanadium compound, n.o.s.	6.1	6.1	POISON	None		None	211
UN2998	Vanadium compound, n.o.s.	6.1	6.1	POISON	None		None	212

§172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym-bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identi- fication Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.155)		(9) Quantity limitations		(10) Vessel stowage re- quirements		
							(8A) Excep- tions	(8B) Non- bulk pack- aging	(8C) Bulk pack- aging	(9A) Passenger aircraft or raircar	(9B) Cargo air- craft only	(10A) Vessel stow- age	(10B) Other stow- age provi- sions
	Vanadium oxytetrachloride	8	UN2443	III	KEEP AWAY FROM FOOD. CORROSIVE	T7	153	213	240	100 kg	200 kg	A	
	Vanadium pentoxide, non-fused form	6.1	UN2862	II	CORROSIVE	A3, A6, A7, B2, B16, N34, T8, T26	154	202	242	Forbidden	30 L	C	40
	Vanadium tetrachloride	8	UN2444	I	POISON CORROSIVE	A3, A6, A7, B4, N34, T8, T26	None	212	242	25 kg	100 kg	A	40
	Vanadium trichloride	8	UN2475	III	CORROSIVE		154	213	240	25 kg	100 kg	A	40
	Vanadyl sulfate	6.1	UN2931	II	POISON		None	212	242	25 kg	100 kg	A	
D	Vehicles, self-propelled including internal combustion engines or other apparatus containing an internal combustion engine or electric storage battery, see Engines etc. or Battery powered etc. or Wheel chair, electric	3	UN1301				150	202	242	Forbidden			
	Very signal cartridge, see Cartridges, signal	2.1	UN1085	II	FLAMMABLE LIQUID FLAMMABLE GAS	T8	306	304	242	5 L	60 L	B	40
	Vinyl acetate, inhibited	3	UN2838	II	FLAMMABLE LIQUID	T7	150	202	242	5 L	60 L	B	40
	Vinyl bromide, inhibited	2.1	UN1086	II	FLAMMABLE GAS	21, B44	306	304	314,	Forbidden	150 kg	B	40
	Vinyl chloride, inhibited or Vinyl chloride, stabilized	6.1	UN2589	II	POISON, FLAMMABLE LIQUID.	T14	None	202	243	5 L	60 L	A	
	Vinyl chloroacetate	3	UN1302	I	FLAMMABLE LIQUID	A3, B100, T14	None	201	243	1 L	30 L	D	40
	Vinyl ether, inhibited	2.1	UN1850	II	FLAMMABLE GAS	B43	306	304	314,	Forbidden	150 kg	E	
	Vinyl fluoride, inhibited	3	UN1304	II	FLAMMABLE LIQUID	T8	150	202	242	5 L	60 L	B	40
	Vinyl isobutyl ether, inhibited	2.1	UN1087	II	FLAMMABLE GAS	B44	306	304	314,	Forbidden	150 kg	B	40
	Vinyl methyl ether, inhibited	Forbidden	UN1087										
	Vinyl nitrate polymer	3	UN2818	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	40
	Vinyl toluene, inhibited mixed isomers	3	UN1303	I	FLAMMABLE LIQUID	T23, T29	150	201	243	1 L	30 L	E	40
	Vinylidene chloride, inhibited	5.1	UN3073	I	POISON, FLAMMABLE LIQUID.	B100, T8	None	202	243	5 L	60 L	B	40
	Vinylpyridines, inhibited	3	UN1305	I	FLAMMABLE LIQUID, CORROSIVE	A3, A7, B6, N34, T14, T26	None	201	243	Forbidden	2.5 L	B	40
	Vinyltrichlorosilane	1.4D	UN3070	II	CORROSIVE		None	62	None	Forbidden	75 kg	A	3E, 7E, 24E
	Warheads, rocket with burstier or expelling charge	1.4F	UN3071	II	EXPLOSIVE 1.4D		None	62	None	Forbidden		E	3E, 7E
	Warheads, rocket with burstier or expelling charge	1.1D	UN0286	II	EXPLOSIVE 1.4F		None	62	None	Forbidden		B	3E, 7E
	Warheads, rocket with bursting charge	1.2D	UN0287	II	EXPLOSIVE 1.1D		None	62	None	Forbidden		B	3E, 7E
	Warheads, rocket with bursting charge	1.1F	UN0369	II	EXPLOSIVE 1.2D		None	62	None	Forbidden		E	3E, 7E
	Warheads, rocket with bursting charge	1.1D	UN0221	II	EXPLOSIVE 1.1F		None	62	None	Forbidden		B	3E, 7E
	Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	I	EXPLOSIVE 1.1D DANGEROUS WHEN WET, CORROSIVE		None	201	243	Forbidden	1 L	D	
				II	DANGEROUS WHEN WET, CORROSIVE		None	202	243	1 L	5 L	E	85
				III	DANGEROUS WHEN WET, CORROSIVE, DANGEROUS WHEN WET, CORROSIVE		None	203	242	5 L	60 L	E	
	Water-reactive liquid, n.o.s.	4.3	UN3148	I	DANGEROUS WHEN WET, CORROSIVE, DANGEROUS WHEN WET		None	201	244	Forbidden	1 L	E	40
				II	DANGEROUS WHEN WET		None	202	243	1 L	5 L	E	40
				III	DANGEROUS WHEN WET		None	203	242	5 L	60 L	E	40
	Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	I	DANGEROUS WHEN WET, DANGEROUS WHEN WET, POISON, DANGEROUS WHEN WET, POISON	A4	None	201	243	Forbidden	1 L	D	
				II	DANGEROUS WHEN WET, POISON, DANGEROUS WHEN WET, POISON		None	202	243	1 L	5 L	E	85
				III	DANGEROUS WHEN WET, POISON, DANGEROUS WHEN WET, KEEP AWAY FROM FOOD, DANGEROUS WHEN WET, CORROSIVE, DANGEROUS WHEN WET, CORROSIVE		None	203	242	5 L	60 L	E	85
	Water-reactive solid, corrosive, n.o.s.	4.3	UN3131	I	DANGEROUS WHEN WET, CORROSIVE, DANGEROUS WHEN WET, CORROSIVE	B100, N40	None	211	242	Forbidden	15 kg	D	
				II	DANGEROUS WHEN WET, CORROSIVE	B100	None	212	242	15 kg	50 kg	E	85

Water-reactive solid, flammable, n.o.s.	4.3	UN3132	III	DANGEROUS WHEN WET, CORROSIVE	B100	None	213	241	25 kg	100 kg	E	85
.....	.....	.....	I	DANGEROUS WHEN WET, FLAMMABLE	B100, N40	None	211	242	Forbidden	15 kg	E	.....
.....	.....	.....	II	DANGEROUS WHEN SOLID	B100	None	212	242	15 kg	50 kg	E	.....
.....	.....	.....	III	DANGEROUS WHEN WET, FLAMMABLE	B100	None	213	241	25 kg	100 kg	E	.....
Water-reactive solid, n.o.s.	4.3	UN2813	I	DANGEROUS WHEN WET, FLAMMABLE	B100, N40	None	211	242	Forbidden	15 kg	E	40
.....	.....	.....	II	DANGEROUS WHEN WET	B100	None	212	242	15 kg	50 kg	E	40
.....	.....	.....	III	DANGEROUS WHEN WET	B100	None	213	241	25 kg	100 kg	E	40
Water-reactive solid, oxidizing, n.o.s.	4.3	UN3133	I	DANGEROUS WHEN WET, OXIDIZER	B100, N40	None	214	214	Forbidden	Forbidden	E	.....
Water-reactive solid, self-heating, n.o.s.	4.3	UN3135	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	B100, N40	None	211	242	Forbidden	15 kg	E	.....
.....	.....	.....	II	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	B100	None	212	242	15 kg	50 kg	E	.....
.....	.....	.....	III	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	B100	None	213	241	25 kg	100 kg	E	.....
Water-reactive solid, toxic, n.o.s.	4.3	UN3134	I	DANGEROUS WHEN WET, POISON	A5, B101, N40	None	211	242	Forbidden	15 kg	D	85
.....	.....	.....	II	DANGEROUS WHEN WET, POISON	B105	None	212	242	15 kg	50 kg	E	85
.....	.....	.....	III	DANGEROUS WHEN WET, KEEP AWAY FROM FOOD	B105	None	213	241	25 kg	100 kg	E	85
.....	.....	.....	III	CLASS 9	.....	222	222	None	No limit	No limit	A	.....
Wheel chair, electric (spillable or non-spillable type batteries)	9	.....	III	CLASS 9	.....	155	216	240	200 kg	200 kg	A	34, 40
White acid, see Hydrofluoric acid mixtures	9	UN2580	III	FLAMMABLE LIQUID	T7, T30	150	202	242	5 L	60 L	A	40
White asbestos (chrysotile, actinolite, anthophyllite, tremolite)	3	UN1306	III	FLAMMABLE LIQUID	B1, T7, T30	150	203	242	60 L	220 L	A	40
Wood preservatives, liquid	2.2	UN2036	III	NONFLAMMABLE GAS	.....	306	302	None	75 kg	150 kg	A	.....
Xenon	2.2	UN2591	II	NONFLAMMABLE GAS	.....	320	None	None	50 kg	500 kg	B	.....
Xenon, refrigerated liquid (cryogenic liquids)	3	UN1307	III	FLAMMABLE LIQUID	T1	150	202	242	5 L	200 L	B	.....
Xylenes	6.1	UN2261	III	FLAMMABLE LIQUID	B1, T1	150	203	242	60 L	220 L	A	.....
.....	.....	UN1711	II	POISON	T8	None	212	242	25 kg	100 kg	A	.....
.....	.....	UN1711	II	POISON	T14	None	212	242	25 kg	100 kg	A	.....
.....	.....	UN1701	II	POISON	T14	None	202	243	5 L	60 L	A	.....
Xylenols	6.1	UN2261	III	POISON	A3, A6, A7, N33	None	340	None	Forbidden	60 L	D	40
Xyldines, solid	6.1	UN1711	II	POISON	.....	None	212	242	5 kg	25 kg	E	.....
Xyldines, solution	6.1	UN1711	II	POISON	.....	None	212	242	25 kg	100 kg	A	.....
Xylyl bromide	6.1	UN1711	II	POISON	.....	None	213	241	25 kg	100 kg	A	.....
p-Xylyl diazide	Forbidden	.....	II	OXIDIZER	.....	None	212	242	5 kg	25 kg	E	.....
Zinc ammonium nitrate	5.1	UN1512	III	DANGEROUS WHEN WET	.....	None	213	241	25 kg	100 kg	A	.....
Zinc arsenate or Zinc arsenite or Zinc arsenate and zinc arsenite mixtures	6.1	UN1712	III	DANGEROUS WHEN WET	A1, A19, B108	None	213	241	25 kg	100 kg	A	.....
Zinc ashes	4.3	UN1435	III	.....	.....	152	213	240	25 kg	100 kg	A	56, 58, 106
.....	.....	.....	III	OXIDIZER	A1, A29	152	213	240	25 kg	100 kg	A	56, 58, 106
Zinc bisulfite solution see Bisulfites, inorganic aqueous solutions, n.o.s.	5.1	UN2469	III	OXIDIZER	A9, N34	152	212	242	5 kg	25 kg	A	.....
Zinc bromate	5.1	UN1513	III	CORROSIVE	T7	None	213	240	25 kg	100 kg	A	.....
Zinc chloride	8	UN2331	III	CORROSIVE	.....	154	203	241	5 L	60 L	A	26
Zinc chloride, anhydrous	8	UN1840	I	CORROSIVE	.....	None	211	242	5 kg	50 kg	A	49
Zinc chloride, solution	6.1	UN1713	I	POISON	.....	155	204	240	100 kg	200 kg	A	.....
Zinc cyanide	9	UN1931	III	None	.....	153	213	240	100 kg	200 kg	A	26
Zinc dithionite or Zinc hydrosulfite	6.1	UN2855	III	KEEP AWAY FROM FOOD	.....	152	212	240	5 kg	25 kg	A	56, 58, 69, 106, 107
Zinc ethyl, see Diethylzinc	.....	.....	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	D	.....
Zinc fluorosilicate	.....	.....	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	A	.....
Zinc hydrosulfite, see Zinc dithionite	.....	.....	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	A	56, 58, 69, 106, 107
Zinc manganate solution, see Zinc chloride, solution	.....	.....	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	A	13, 75, 106
Zinc nitrate	5.1	UN1514	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	E	40, 85
Zinc permanganate	5.1	UN1515	II	OXIDIZER	.....	152	212	242	5 kg	25 kg	A	.....
Zinc peroxide	5.1	UN1516	II	OXIDIZER	A19, N40	152	212	242	5 kg	25 kg	A	.....
Zinc phosphide	4.3	UN1714	I	DANGEROUS WHEN WET, POISON	A19, N40	None	211	242	None	Forbidden	E	.....
Zinc powder or Zinc dust	4.3	UN1436	I	DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE	A19, B100, N40	None	211	242	Forbidden	15 kg	A	.....

\$172.101 HAZARDOUS MATERIALS TABLE—Continued

(1) Sym- bols	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class or Di- vision	(4) Identifi- cation Num- bers	(5) Pack- ing group	(6) Label(s) required (if not excepted)	(7) Special provisions	(8) Packaging authorizations (§173.17-1)		(9) Quantity limitations		(10) Vessel stowage re- quirements	
							Excep- tions (8A)	Non- bulk, pack- aging (8B)	Passenger aircraft or raicar (9A)	Cargo air- craft only (9B)	Vessel stow- age (10A)	Other stow- age provi- sions (10B)
				II	III		None	212	242	15 kg	50 kg	A
				III	III		None	213	242	25 kg	100 kg	A
		4.1	UN2714	III	III		151	213	240	25 kg	100 kg	A
	Zinc resinates 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) Zirconium, dry, finished sheets, strip or coiled wire			III	III		None	213	240	25 kg	100 kg	A
	Zirconium hydride	4.1	UN1437	III	III		None	212	240	15 kg	50 kg	E
	Zirconium nitrate	5.1	UN2728	III	III		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	III		None	62	None	Forbidden	Forbidden	B
	Zirconium picramate, wetted with not less than 20 percent water, by mass	4.1	UN1517	I	III		None	211	None	1 kg	15 kg	D
	Zirconium powder, dry	4.2	UN2008	I	III		None	211	242	Forbidden	Forbidden	D
				II	III		None	212	241	15 kg	50 kg	D
				III	III		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 Zirconium scrap	4.1 4.2	UN1358 UN1932	II III	III		None	212	241	15 kg	50 kg	E
				III	III		None	213	240	Forbidden	Forbidden	D
D	Zirconium sulfate	8	NA9163	III	III		None	213	240	50 kg	No limit	A
	Zirconium suspended in a liquid	3	UN1308	I	III		None	201	243	Forbidden	Forbidden	B
				II	III		None	202	242	5 L	60 L	B
				III	III		150	203	242	60 L	220 L	B
	Zirconium tetrachloride	8	UN2503	III	III		154	213	240	25 kg	100 kg	A

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

Appendix B to § 172.101—List of Marine Pollutants

* * * * *

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

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

* * * * *

13. In addition, in Appendix B to § 172.101, the List of Marine Pollutants is amended by removing the entry "Ammonium arsenate" and adding the following entries to the List of Marine Pollutants in appropriate alphabetical order to read as follows:

Appendix B to § 172.101—List of Marine Pollutants

* * * * *

S.M.P.—(1)	Marine pollutant—(2)
------------	----------------------

[ADD:]

	Acetal.
	Alkyl (C12–C14) dimethyl-amine.
	Alkyl (C7–C9) nitrates.
	n-Amylbenzene.
	Benomyl.
	Bromoacetone.
	1-Butanethiol.
	n-Butyl butyrate.
	Carbendazim.
	Chloroacetone, stabilized.
	2-Chloro-6-nitrotoluene.
	alpha-Chloropropylene.
	Copper arsenate.
	Copper chloride (solution).
	Copper metal powder.
	Cupric sulfate.
PP	1,5,9-Cyclododecatriene.
	Decyloxytetrahydrothiophene dioxide.
PP	Diethylbenzenes (mixed isomers).
	Diisopropyl-naphthalene.
	Dimethyl glyoxal (butanedione).
	Dimethyl sulphide.
	4,4'-Diaminodiphenylmethane.

S.M.P.—(1)	Marine pollutant—(2)
	1,4-Di-tert-butylbenzene.
	Dinoseb acetate.
	Dodecyl diphenyl oxide disulphonate.
	Dodecyl hydroxypropyl sulfide.
	1-Dodecylamine.
	Epibromohydrin.
	Epichlorohydrin.
	Esfervalerate.
	Ethyl mercaptan.
	1-Ethyl-2-methylbenzene.
	2-Ethylhexyl nitrate.
	Fenbutatin oxide.
	n-Heptylbenzene.
	n-Hexylbenzene.
	Iron oxide, spent.
	Isobenzan.
	Isobutyl propionate.
	Isobutyl isobutyrate.
	Isobutyl butyrate.
	Isobutylbenzene.
	Isopropyltoluene.
	1-Methyl-2-ethylbenzene.
	3-Methylpyridine.
	Mononitrobenzene (nitro benzene).
	Nitrotoluenes (o-: m-: p-).
	Oleylamine
	n-Pentylbenzene.
	d-Phenothrin.
	Propachlor.
	n-Propylbenzene.
	Propanethiols.
	Quizalofop.
	Quizalofop-p-ethyl.
	Tetrachlorvinphos.
	Tetramethrin.
	Tetramethylbenzenes.
	Triisopropylated phenyl phosphates.
	1,2,3-Trimethylbenzene.
	1,2,4-Trimethylbenzene.
	1,3,5-Trimethylbenzene.

14. In § 172.102, in paragraph (c)(1), Special Provisions 25 and 41 are removed, Special Provisions 16 and 23 are revised, and Special Provisions 24, 26, 32, 34 through 37, 39, 40, 43 through 52, and 54 are added; in paragraph (c)(2), Special Provision A33 is removed; and in paragraph (c)(3) Special Provisions B53 and B110 are revised to read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

* * * * *

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

* * * * *

23. This material may be transported under the provisions of Division 4.1

only if it is so packed that the percentage of diluent will not fall below that stated in the shipping description at any time during transport.

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

* * * * *

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

* * * * *

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

* * * * *

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

35. Antimony sulphides and oxides which do not contain more than 0.5 percent of arsenic calculated on the total mass are not subject to the requirements of this subchapter.

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

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

* * * * *

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

40. Polyester resin kits consist of two components: a base material (Class 3, Packing Group II or III) and an activator (organic peroxide), each separately packed in an inner packaging. The organic peroxide must be type D, E, or F, not requiring temperature control, and be limited to a quantity of 125 ml

(4.22 ounces) per inner packaging if liquid, and 500 g (1 pound) if solid. The components may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage. Packing group will be II or III, according to the criteria for Class 3, applied to the base material.

* * * * *

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

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

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

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

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

48. Mixtures of solids which are not subject to this subchapter and toxic liquids may be transported under this entry without first applying the classification criteria of Division 6.1, provided there is no free liquid visible

at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. This entry may not be used for solids containing a Packing Group I liquid.

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

50. Cases, cartridge, empty with primer which are made of metallic 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.

52. Ammonium nitrate fertilizers may not meet the definition and criteria of Class 1 (explosive) material (see § 173.150 of this subchapter).

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.

* * * * *

(c) * * *

(3) * * *

* * * * *

B53 Except for IBCs, packagings must be made of either aluminum or steel.

* * * * *

B110 This material also may be packaged in IBCs authorized in § 173.242(d) of this subchapter.

* * * * *

15. In § 172.203, the list of shipping names in paragraph (k)(3) is revised and new paragraphs (l)(3) and (o) are added to read as follows:

§ 172.203 Additional description requirements.

* * * * *

(k) * * *

(3) * * *

Alcoholates solution, n.o.s., in alcohol

Alcohols, toxic, n.o.s.

Aldehydes, toxic, n.o.s.

Alkali metal alcoholates, self-heating, corrosive, n.o.s.

Alkaline earth metal alcoholates, n.o.s.

Amines, flammable, corrosive, n.o.s. or

Polyamines, flammable, corrosive, n.o.s.

Amines, liquid, corrosive, flammable, n.o.s.

or Polyamines, liquid, corrosive, flammable, n.o.s.

Amines, liquid, corrosive, n.o.s. or

Polyamines, liquid, corrosive, n.o.s.

Amines, solid, corrosive, n.o.s. or

Polyamines, solid, corrosive, n.o.s.

Articles, explosive, n.o.s.

Caustic alkali liquids, n.o.s.

Charges, propelling

Chloroformates, toxic, corrosive, n.o.s.

Combustible liquid, n.o.s.

Components, explosive train, n.o.s.

Compounds, cleaning liquid, corrosive, flammable, toxic

Compounds, tree or weed killing, liquid, flammable, corrosive, toxic

Compressed or Liquefied gases, flammable, n.o.s.

Compressed or Liquefied gases, n.o.s.

Compressed or Liquefied gases, oxidizing, n.o.s.

Compressed or Liquefied gases, toxic, flammable, n.o.s.

Compressed or Liquefied gases, toxic, n.o.s.

Contrivances, water-activated

Corrosive, liquid, acidic, inorganic or organic, n.o.s.

Corrosive, liquid, basic, inorganic or organic, n.o.s.

Corrosive liquids, flammable, n.o.s.

Corrosive liquids, n.o.s.

Corrosive liquids, oxidizing, n.o.s.

Corrosive liquids, toxic, n.o.s.

Corrosive liquids, water-reactive, n.o.s.

Corrosive, solid, acidic, inorganic or organic, n.o.s.

Corrosive, solid, basic, inorganic or organic, n.o.s.

Corrosive solids, flammable, n.o.s.

Corrosive solids, n.o.s.

Corrosive solids, oxidizing, n.o.s.

Corrosive solids, self-heating, n.o.s.

Corrosive solids, toxic, n.o.s.

Corrosive solids, water-reactive, n.o.s.

Disinfectants, liquid, corrosive, n.o.s.

Disinfectants, liquid, toxic, n.o.s.

Disinfectants, solids, toxic, n.o.s.

Dispersant gas, n.o.s.

Dyes, liquid, corrosive, n.o.s. or Dye intermediates, liquid, corrosive, n.o.s.

Dyes, liquid, toxic, n.o.s. or Dye intermediates, liquid, toxic, n.o.s.

Dyes, solid, corrosive, n.o.s. or Dye intermediates, solid, corrosive, n.o.s.

Dyes, solid, toxic, n.o.s. or Dye intermediates, solid, toxic, n.o.s.

Environmentally hazardous substances, liquid or solid, n.o.s.

Flammable gases, solid, corrosive, n.o.s.

Flammable liquids, corrosive, n.o.s.

Flammable liquids, n.o.s.

Flammable liquids, toxic, corrosive, n.o.s.

Flammable liquids, toxic, n.o.s.

Flammable solids, corrosive, organic or inorganic, n.o.s.

Flammable solids, organic, molten, n.o.s.

Flammable solids, organic or inorganic, n.o.s.

Flammable solids, toxic, organic or inorganic, n.o.s.

Halogenated irritating liquids, n.o.s.

Hazardous waste, liquid or solid, n.o.s.

Hydrocarbons, liquid, n.o.s.

Infectious substances, affecting animals
 Infectious substances, affecting humans
 Insecticide gases, n.o.s.
 Insecticide gases, toxic, n.o.s.
 Isocyanates, flammable, toxic, n.o.s. or
 Isocyanates solutions, flammable, toxic,
 n.o.s.
 Isocyanates, toxic, flammable, n.o.s. or
 Isocyanates solutions, toxic, flammable,
 n.o.s.
 Medicines, liquid, flammable, toxic, n.o.s.
 Medicines, liquid, toxic, n.o.s.
 Medicine, solid, toxic, n.o.s.
 Metal powder, self-heating, n.o.s.
 Metal salts of organic compounds,
 flammable, n.o.s.
 Metallic substance, water-reactive, n.o.s.
 Metallic substance, water-reactive, self-
 heating, n.o.s.
 Nitriles, flammable, toxic, n.o.s.
 Nitriles, toxic, flammable, n.o.s.
 Nitriles, toxic, n.o.s.
 Organic peroxide type B, liquid
 Organic peroxide type B, liquid, temperature
 controlled
 Organic peroxide type B, solid
 Organic peroxide type B, solid, temperature
 controlled
 Organic peroxide type C, liquid
 Organic peroxide type C, liquid, temperature
 controlled
 Organic peroxide type C, solid
 Organic peroxide type C, solid, temperature
 controlled
 Organic peroxide type D, liquid
 Organic peroxide type D, liquid, temperature
 controlled
 Organic peroxide type D, solid
 Organic peroxide type D, solid, temperature
 controlled
 Organic peroxide type E, liquid
 Organic peroxide type E, liquid, temperature
 controlled
 Organic peroxide type E, solid
 Organic peroxide type E, solid, temperature
 controlled
 Organic peroxide type F, liquid
 Organic peroxide type F, liquid, temperature
 controlled
 Organic peroxide type F, solid
 Organic peroxide type F, solid, temperature
 controlled
 Organometallic compound, toxic, n.o.s.
 Organometallic compound dispersion, water-
 reactive, flammable, n.o.s.
 Organometallic compound solution, water-
 reactive, flammable, n.o.s.
 Other regulated substances, liquid, n.o.s.
 Other regulated substances, solid, n.o.s.
 Oxidizing liquid, corrosive, n.o.s.
 Oxidizing liquid, n.o.s.
 Oxidizing liquid, toxic, n.o.s.
 Oxidizing solid, corrosive, n.o.s.
 Oxidizing solid, flammable, n.o.s.
 Oxidizing solid, n.o.s.
 Oxidizing solid, self-heating, n.o.s.
 Oxidizing solid, toxic, n.o.s.
 Oxidizing solid, water-reactive, n.o.s.
 Pesticides, liquid, flammable, toxic, n.o.s.
 Pesticides, liquid, toxic, flammable, n.o.s.
 Pesticides, liquid, toxic, n.o.s.
 Pesticides, solid, toxic, n.o.s.

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

Toxic solids, organic or inorganic, n.o.s.
 Toxic solids, oxidizing, n.o.s.
 Toxic solids, self-heating, n.o.s.
 Toxic solids, water-reactive, n.o.s.
 Water-reactive, liquid, corrosive, n.o.s.
 Water-reactive, liquid, n.o.s.
 Water-reactive, liquid, toxic, n.o.s.
 Water-reactive, solid, corrosive, n.o.s.
 Water-reactive, solid, flammable, n.o.s.
 Water-reactive, solid, n.o.s.
 Water-reactive, solid, oxidizing, n.o.s.
 Water-reactive, solid, self-heating, n.o.s.
 Water-reactive, solid, toxic, n.o.s.

* * * * *

(1) * * *

(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.

* * * * *

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

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

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

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

§ 172.203 [Amended]

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

§ 172.204 [Amended]

17. In § 172.204, in paragraph (a)(2),
 the following changes are made:
 a. The wording "packed, marked and
 labeled," is revised to read "packed,
 marked and labeled/placarded."
 b. The wording "by [*]" and footnote
 * at the end of paragraph (a)(2) are
 removed.

§ 172.320 [Amended]

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

19. In § 172.325, in paragraph (c), the illustration at the end of the paragraph is revised to read as follows:

§ 172.325 Elevated temperature materials.

* * * * *

(c) * * *

BILLING CODE 4910-60-P



BILLING CODE 4910-60-C

20. In § 172.400a, new paragraphs (c) and (d) are added to read as follows:

§ 172.400a Exceptions from labeling

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

(d) For Division 6.1 Packing Group III materials, a POISON label may be used in place of a KEEP AWAY FROM FOOD label.

21. In § 172.402, paragraph (a)(1) is revised and new paragraphs (f) and (g) are added to read as follows:

§ 172.402 Additional labeling requirements

(a) * * *
 (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

(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.

§ 172.402 [Amended]

22. In addition, in § 172.402, the following changes are made:

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

b. In the paragraph (a)(2) table, for the entry "III", the footnote reference "N" is removed and replaced with an "X" each place it appears, and footnote N is removed.

c. In the paragraph (a)(2) table, in the column "8", for the entry "III", the

footnote reference "****" is removed and replaced with "X", and footnote ** is removed and reserved.

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

§ 172.411 [Amended]

23. In § 172.411, in the third sentence of paragraph (d), the wording "measuring at least 12.7 mm (0.5 inches) in height" is removed.

24. In § 172.416, a new sentence is added as the last sentence of paragraph (b) to read as follows:

§ 172.416 POISON GAS label

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

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

§ 172.430 POISON label

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

26. In § 172.540, a new sentence is added to the end of paragraph (b) to read as follows:

§ 172.540 POISON GAS placard

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

§ 172.547 [Amended]

27. In § 172.547, in paragraph (b), the wording "25 mm (0.98 inches)" is removed and replaced with "12 mm (0.5 inch)".

28. In § 172.554, a new sentence is added to the end of paragraph (b) to read as follows:

§ 172.554 POISON placard

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

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

29. The authority citation for Part 173 continues to read as follows:

Authority: 49 App. U.S.C. 5101–5127; 49 CFR 1.53.

30. In § 173.2a, in the paragraph (b) table, two notes are added at the end of the table following the footnotes to read as follows:

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

* * * * *
 (b) * * *

Precedence of Hazard Table

* * * * *
Note 1: The most stringent packing group assigned to a hazard of the material takes precedence over other packing groups; for example, a material meeting Class 3 PG II and Division 6.1 PG I (oral toxicity) is classified as Class 3 PG I.

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

* * * * *

§ 173.2a [Amended]

31. In addition, in the paragraph (b) table, the following changes are made:

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

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

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

d. At the intersection of the line entry "4.2 III" and the column entry "8, I liquid", the wording "(3)" is revised to read "8".

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

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

32. In § 173.9, a new paragraph (e) is added to read as follows:

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

* * * * *

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

§ 173.21 [Amended]

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

34. In § 173.22, paragraphs (a)(2)(iii) and (a)(2)(iv) are redesignated as paragraphs (a)(2)(iv) and (a)(2)(v), respectively, a new paragraph (a)(2)(iii) is added, and paragraphs (a)(3)(i) and (a)(4) are revised, to read as follows:

§ 173.22 Shipper's responsibility

- (a) * * *
- (2) * * *

(iii) National or international regulations based on the UN Recommendations on the Transport of Dangerous Goods, as authorized in § 173.24(d)(2);

- (3) * * *

(i) Except for the marking on the bottom of a metal or plastic drum with a capacity over 100 liters which has been reconditioned, remanufactured or otherwise converted, the manufacturer's certification, specification, approval, or exemption marking (see §§ 178.2 and 179.1 of this subchapter); or

(4) For a DOT specification or UN standard packaging subject to the requirements of part 178 of this subchapter, a person shall perform all functions necessary to bring that package into compliance with part 178 of this subchapter, as identified by the packaging manufacturer or subsequent distributor, in accordance with § 178.2 of this subchapter.

35. In § 173.24, paragraph (d) is revised to read as follows:

§ 173.24 General requirements for packagings and packages.

(d) Specification packagings and UN standard packagings manufactured outside the U.S.—(1) Specification

packagings. A specification packaging, including a UN standard packaging manufactured in the United States, must conform in all details to the applicable specification or standard in part 178 or part 179 of this subchapter.

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

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

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

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

§ 173.24 [Amended]

36. In addition, in § 173.24, the following changes are made:

a. In paragraph (c)(1), the wording "(including U.N. standard packagings)" is revised to read "(including U.N. standard packagings manufactured in the United States)".

b. In paragraph (e)(4)(ii), the wording "flammable or poisonous gases;" is revised to read "flammable, poisonous, or asphyxiant gases;".

37. In § 173.25, paragraph (a) introductory text is revised and a new paragraph (b) is added to read as follows:

§ 173.25 Authorized packages and overpacks.

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

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

38. In § 173.28, paragraph (b)(4) is revised and new paragraphs (b)(7) and (c)(4) are added to read as follows:

§ 173.28 Reuse, reconditioning and remanufacture of packagings.

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

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

¹ Metal drums or jerricans constructed with a minimum thickness of 0.80 mm (0.03 inch) body and 1.10 mm (0.043 inch) heads are authorized.

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

- (i) Is refilled with a material compatible with the previous lading;
- (ii) Is offered for transportation or transported by a private carrier, contract carrier, or by a common carrier in a transport vehicle or freight container used exclusively for such service,

within a distribution chain controlled by the offeror; and

(iii) Is constructed of—

(A) stainless steel, monel or nickel with a thickness not less than one and one-half times the minimum thickness prescribed in paragraph (b)(4) of this section;

(B) plastic, provided the packaging is not refilled for reuse on a date more than five years from the date of manufacture marked on the packaging in accordance with § 178.503(a)(6) of this subchapter; or

(C) another material or thickness, if approved by the Associate Administrator for Hazardous Materials Safety for reuse without retesting in accordance with the provisions of this paragraph.

(c) * * *

(4) The markings applied by the reconditioner may be different from those applied by the manufacturer at the time of original manufacture, but may not identify a greater performance capability than that for which the original design type had been tested (for example, the reconditioner may mark a drum which was originally marked as 1A1/Y1.8 as 1A1/Y1.2 or 1A1/Z2.0).

* * * * *

§ 173.28 [Amended]

39. In addition, in § 173.28, the following changes are made:

a. In paragraph (c)(1)(i), the wording "any coatings" is revised to read "any external coatings".

b. In paragraph (c)(3), in the first sentence, the reference "§ 178.503(c)" is revised to read "§ 178.503 (c) and (d)".

§ 173.33 [Amended]

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

§ 173.52 [Amended]

41. In § 173.52, in paragraph (b), Table 1, the following changes are made:

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

b. In the fifth and sixth entries, the wording ", gel" is added immediately following the wording "flammable

liquid" and immediately preceding the wording "or hypergolic liquid".

42. In § 173.59, the following definitions are added in appropriate alphabetical order to read as follows:

§ 173.59 Descriptions of terms for explosives

* * * * *

Charges, propelling for cannon.

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

* * * * *

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

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

* * * * *

§ 173.59 [Amended]

43. In addition, in § 173.59, the following changes are made:

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

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

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

44. In § 173.60, paragraph (b)(15) is added to read as follows:

§ 173.60 General packaging requirements for explosives

* * * * *

(b) * * *

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

45. In § 173.62, paragraph (a) is revised, a new third sentence is added

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

§ 173.62 Specific packaging requirements

(a) Except as provided in paragraph (e) of this section, when the § 172.101 Table specifies that an explosive must be packaged in accordance with this section, only non-bulk packagings which conform to the provisions of paragraphs (b), (c), and (d) of this section, and the applicable requirements in §§ 173.60 and 173.61 may be used, unless otherwise approved by the Associate Administrator for Hazardous Materials Safety. (b) * * * However, the packing method authorized under E-103 may be used in place of the packing method listed in the Explosives Table. * * *

EXPLOSIVES TABLE

Identification No.	Packing methods
[Remove]:	
UN0075	US001.
UN0143	US001.
UN0273	E-158(a), (b), (c).
UN0274	E-158(a), (b), (c).
NA0273	E-22(a), (b), (c).
NA0274	E-22(a), (b), (c).
[Add]:	
UN0075	E-159.
UN0143	E-159.
UN0491	E-158.
UN0492	E-151.
UN0493	E-151.
UN0494	US006.
UN0495	E-159.
UN0496	E-13.
UN0497	E-159.
UN0498	E-22.
UN0499	E-22.
NA0276	E-114.
NA0323	E-114.
NA0337	E-134.

(c) * * *

TABLE OF PACKING METHODS

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-1(a)	Not necessary	Bags: Paper, multiwall, water resistant (5M2) Textile, sift-proof (5L2) Textile, water resistant (5L3) Plastic, woven, sift-proof (5H2) Plastic, woven, water resistant (5H3) Plastic, film (5H4).	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-1(b)	Bags: Paper, Kraft Plastic Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Steel, removable head (1A2).	
E-2	Receptacles: Metal Paper Plastic Sheets: Plastic Bags: Paper, multiwall, water resistant Woven plastics	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Steel, removable head (1A2) Note: Removable head plastic drums (1H2) are authorized for UN 0219	1 for all entries; 2 for all entries except UN 0402.
E-3	Bags: Plastic Rubber Textile Rubberized textile Intermediate: Bags: Plastic Rubber Textile Rubberized textile Barrels: Wood Receptacles: Plastic	Barrels: Wood, removable head (2C2) Drums: Plastic, removable head (1H2) Steel, removable head (1A2)	3, 4, D1.
E-4(a)	Receptacles: Fiberboard Metal Paper Plastic Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Steel (4A) Fiberboard (4G) Natural wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	
E-4(b)	Optional	Drums: Aluminum, removable head (1B2) Fiber (1G) Steel, removable head (1A2) Note: steel drums (1A2) must be dust tight	
E-5	Bags: Plastic Sheets: Paper, kraft Paper, waxed	Boxes: Fiberboard (4G) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	
E-6(a)(i)	For wetted explosives: Bags: Plastic Rubberized, textile	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Steel, removable head (1A2) Fiber (1G)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-6(a)(ii)	For wetted explosives: Bags: Rubber Textile Rubberized textile Intermediate: Bags: Rubber Rubberized textile Plastics	Barrels: Wood, removable head (2C2) Drums: Steel, removable head (1A2) Fiber (1G)	
E-6(b)	For desensitized explosives: Same as for wetted explosives except that any fiberboard boxes may be used as inner packaging and any textile bags as intermediate packaging	For desensitized explosives: Same as for wetted explosives except that any fiberboard boxes may be used as inner packaging and any textile bags as intermediate packaging	
E-8	Receptacles: Waterproof material Sheets: Waterproof	Barrels: Wood, removable head (2C2) Boxes: Steel (4A) Aluminum (4B) Plastics, solid (4H2) Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2)	D15, D13.
E-9	Bags: Oil-resistant Sheets: Plastic Cans: Metal	Bags: Paper, multiwall water resistant (5M2) Textile, sift-proof (5L2) Textile, water resistant (5L3) Woven plastic, without inner lining or coating (5H1) Woven plastic, sift-proof (5H2) Woven plastic, water resistant (5H3) Plastic film (5H4) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Drums: Fiber (1G) Steel, removable head (1A2) Note: If bags of 5H2, 5H3, 5H4, or 5M2 are used, no inner packaging necessary	D13.
E-10	Bags: Paper, waxed Plastic Rubberized textile Sheets: Paper, waxed Plastic Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E-11	Bags: Paper, waxed Plastic Rubberized textile Sheets: Paper, waxed Plastic Textile Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Fiberboard (4G) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-12	Bags: Oil-resistant Sheets: Plastic	Bags: Paper, multiwall, water resistant (5M2) Woven plastic, without inner lining or coating (5H1) Woven plastic, sift-proof (5H2) Woven plastic, water resistant (5H3) Plastic film (5H4) Textile, sift-proof (5L2) Textile, water resistant (5L3) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2) Note: If bags of 5H2 or 5H3 are used, no inner packaging is necessary	D-14.
E-13(a)	For wetted explosives: Bags: Plastic Woven plastics Paper, multiwall, water resistant Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E-13(b)	For dry explosives: Bags: Paper Plastic Woven plastics Paper, multiwall, water resistant Boxes: Fiberboard Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E-15(a)	Not necessary	Drums: Aluminum, removable head (1B2) Steel, removable head (1A2)	
E-15(b)	Bags: Waterproof paper Plastic Rubberized textile Sheets: Plastic Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Fiberboard (4G) Drums: Fiber (1G)	
E-17	Cans: Metal Receptacles: Glass Plastic	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E-18	Bags: Paper Plastic Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Plywood (1D) Steel, removable head (1A2)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-19(a)	Not necessary	Drums: Aluminum, removable head (1B2) Steel, removable head (1A2) Plastic, removable head (1H2)	7.
E-19(b)	Bags: Plastic Sheets: Plastic	Barrels: Wood, removable head (2C2) Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G)	
E-20	Receptacles: Metal Plastic Wood Fiberboard	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums: Fiber (1G)	55.
E-21	Boxes: Fiberboard Cans: Metal Receptacles: Waterproof paper Plastic Note: Plastic used must not be liable to generate static electricity by contained substances	Boxes: Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	2.
E-22(a)	Bags: Paper, kraft Plastic Textile Rubberized textile	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Steel (4A) Drums: Fiber (1G) Plywood (1D)	11 for UN 0411.
E-22(b)	Receptacles: Fiberboard Metal Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F)	10.
E-22(c)	Not necessary	Drums: Steel, removable head (1A2) Fiber (1G) Plywood (1D) Jerricans: Steel (3A1) Steel, removable head (3A2)	8, 9, 10.
E-24(a)	Bags: Rubber Rubberized textile Plastic	Boxes: Fiberboard (4G)	
E-24(b)	Bags: Rubber Rubberized textile Plastic Intermediate: Bags: Rubber Rubberized textile Plastic	Drums: Steel, removable head (1A2) with coating other than lead	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-25	Bags: Plastic	Drums: Fiber (1G) Steel, removable head (1A2)	
E-26	Bags: Plastic Paper Paper, multiwall, water resistant Sheets: Plastic Receptacles: Metal Paper Plastic	Barrels: Wood, removable head (2C2) Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Drums: Fiber (1G) Bags: Plastic, sift-proof (5H2)	53.
E-102	Optional	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Fiberboard (4G) Plastics, solid (4H2) Crates: (For large articles) Drums: Steel, removable head (1A2) Fiber (1G) Aluminum, removable head (1B2)	13, 48, 49.
E-103	Must be specifically authorized by the Associate Administrator for Hazardous Materials Safety prior to transportation. See §§ 173.57 and 173.58. For an international shipment, the package must be marked with "Packaging authorized by competent authority of the United States of America (USA)"		
E-106	Not necessary Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2) Drums: Steel, removable head (1A2)	49 for all entries except UN 0434 and UN 0435.	
E-107(a)	Not necessary Note: This packaging method is to be used for boosters which are finished articles consisting of closed metal, plastic, or fiberboard receptacles that contain a detonating explosive, or consisting of a plastic-bonded detonating explosive.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Note: This packaging method is to be used for boosters which are finished articles consisting of closed metal, plastic, or fiberboard receptacles that contain a detonating explosive, or consisting of a plastic-bonded, detonating explosive.	57
E-107(b)	Receptacles: Fiberboard Metal Plastic Sheets: Plastic Paper Note: This packaging method is to be used for cast or pressed boosters in tubes or capsules without end closures.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Note: This packaging method is to be used for cast or pressed boosters in tubes or capsules without end closures.	57.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-108	Receptacles Metal Plastic Wooden Note: Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes Wooden, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	23.
E-109	Receptacles: Metal Plastic Wood Paper Fiberboard	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	28.
E-113	Receptacles: Fiberboard Plastic Metal Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Natural wood, with sift-proof walls (4C2) Steel (4A)		
E-114	Receptacles: Fiberboard Plastic Metal Wood	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Natural wood, with sift-proof walls (4C2) Drums: Steel, removable head (1A2)	60.
E-115	Receptacles: Fiberboard Metal Paper, raft (for cartridge of 1.4G and 1.4S) Plastic Wood	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Plastics, solid (4H2)	
E-116	Bags: Plastic Textile Boxes: Fiberboard Plastic Wood Note: (1) Bags are authorized for small cases only. (2) Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E-117	Not necessary	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Drums: Steel, removable head	57.

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-119	Not necessary	Boxes: Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Plastics, solid (4H2) Drums: Steel, removable head (1A2) Aluminum, removable head (1B2) Note: Packaging 4C1 is authorized for cased charges only.	
E-120	Tubes: Fiberboard Other materials Note: Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	30, 31
E-121	Not necessary	Boxes: Fiberboard (4G1) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2) Aluminum (1B2)	32, 57
E-122	Boxes: Metal Plastic Wood Fiberboard	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E-123	Receptacles: Fiberboard Metal Plastics Note: Dividing partitions in the outer packaging may be used in place of inner packagings.	Boxes: Wood, ordinary (4C1), with metal liner Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1)	35, 49.
E-124	Reels Receptacles: Metal	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Aluminum (4B) Steel (4A) Drums: Steel, removable head (1A2) Aluminum (1B2) Fiber (1G)	33.
E-125	Bags: Plastic Sheets: Paper, Kraft Plastic Note: Reels may be used in place of inner packagings	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2) Aluminum (1B2)	34.

TABLE OF PACKING METHODS—Continued

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

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-134	Receptacles: Fiberboard Metal Plastic Wood	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2) Aluminum (4B)	
E-135	Bags: Plastic Reels Sheets: Paper, kraft Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F)	
E-136	Not necessary	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded solid (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2)	32, 57.
E-137	Receptacles: Fiberboard Metal Plastic Wood Trays: Plastic Wood Note: Dividing partitions in the outer packaging may be used in place of inner packagings	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Fiberboard (4G) Plastics, solid (4H2) Drums: Steel, removable head (1A2)	56, 38 for UN 0106, 0107, 0257, 0367, 0408, 0409 and 0410 only.
E-138	Optional	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Plastics, solid (4H2)	
E-139	Receptacles: Metal Plastic Wood Fiberboard	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2)	28 for UN 0121 only.
E-141	Receptacles: Fiberboard Metal Wood Sheets: Paper Trays: Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Solid plastics (4H2)	

TABLE OF PACKING METHODS—Continued

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

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-150	Boxes: Fiberboard Metal Receptacles: Metal Plastic Sheets: Paper, kraft	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Expanded plastics (4H1) Plastics, solid (4H2) Drums: Fiber (1G) Steel, removable head (1A2) Aluminum, removable head (1B2) Plastics, removable head (1H2)	12.
E-151	Receptacles: Metal Plastic Wood Fiberboard	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Fiber (1G)	43, 44, 45.
E-153	Sheets: Fiberboard, corrugated Tubes: Fiberboard Intermediate: Receptacles: Fiberboard Metal Plastic	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	46.
E-156	Bags: Plastic Boxes: Fiberboard Tubes: Fiberboard Plastic Metal Note: Dividing partitions in the outer packaging may be used in place of inner packaging	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E-157	Not necessary	Boxes: Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	
E-158(a)	Bags: Paper, kraft Plastics Textile Rubberized textile	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Solid plastics (4H2) Drums: Steel, removable head (1A2) Fiber (1G) Plywood (1D)	8, 10.
E-158(b)	Receptacles: Fiberboard Metal Plastics	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Wood, sift-proof (4C2) Plywood (4D) Reconstituted wood (4F) Solid plastics (4H2)	10.
E-158(c)	Not necessary	Composite packagings: Plastic receptacle with outer solid plastic box (6HH2)	

TABLE OF PACKING METHODS—Continued

Packing method (1)	Inner packaging (2)	Outer packaging (3)	Particular packaging exception/requirement (4)
E-159(a)	Receptacles: Plastics Intermediate: Bags Plastic, in metal cans	Boxes: Natural wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Note: DOT Spec. MC-200, motor vehicle container may be used as the outer packaging	58.
E-159(b)	Receptacles: Plastics Intermediate: Drums Metal	Drums: Steel, removable head (1A2) Aluminum, removable head (1B2) Note: DOT Spec. MC-200, motor vehicle container may be used as the outer packaging	59.
US002	Receptacles: Fiberboard Metal Paper	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D3.
US003	Receptacles: Fiberboard Metal Plastic Intermediate: Boxes: Fiberboard Wood Sheets: Paper, Kraft Plastic	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D3, D4, D10.
US004	Receptacles: Fiberboard Metal Paper	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B)	D2, D5, D6, D7, D8.
US005	Boxes: Fiberboard Metal Plastic Wood Note: Metal clips or dividing partitions in the outer packaging may be used in place of inner packagings	Boxes: Fiberboard (4G) Wood, ordinary (4C1) Plywood (4D) Reconstituted wood (4F) Steel (4A) Aluminum (4B) Drums: Steel, removable head (1A2)	13.
US006 ¹			

¹ A jet perforating gun, charged, oil well may be transported under the following conditions:

a. Initiation devices carried on the same motor vehicle or offshore supply vessel must be segregated; each kind from every other kind, and from any gun, tool or other supplies. Initiation devices must be carried in a container having individual pockets for each such device or in a fully enclosed steel container lined with a non-sparking material. No more than two initiation devices per gun may be carried on the same motor vehicle.

b. Each shaped charge affixed to the gun may not contain more than 112 g (4 ounces) of explosives.

c. Each shaped charge if not completely enclosed in glass or metal, must be fully protected by a metal cover after installation in the gun.

d. A jet perforating gun classed as 1.1D or 1.4D may be transported by highway by private or contract carriers engaged in oil well operations.

1. A motor vehicle transporting a gun must have specially built racks or carrying cases designed and constructed so that the gun is securely held in place during transportation and is not subject to damage by contact, one to the other or any other article or material carried in the vehicle, and;

2. The assembled gun packed on the vehicle may not extend beyond the body of the motor vehicle.

e. A jet perforating gun classed as 1.4D may be transported by a private offshore supply vessel only when the gun is carried in a motor vehicle as specified in paragraph (d) of this packing method or on offshore down-hole tool pallets provided that:

1. All the conditions specified in paragraphs (a), (b), and (c) of this packing method are met;

2. The total explosive contents do not exceed 9.1 kg (20 pounds) per pallet;

3. Each cargo vessel compartment may contain up to 90.8 kg (200 pounds) of explosive content if the segregation requirements in § 176.83(b)(3) of this subchapter are met; and

4. When more than one vehicle or pallet is stowed "on deck" a minimum horizontal separation of 3 m (9.8 feet) must be provided.

(d) Table of particular packaging requirements or exceptions.

Number identifying packaging requirement or exception	Explanation of packaging requirement or exception	Number identifying packaging requirement or exception	Explanation of packaging requirement or exception	Number identifying packaging requirement or exception	Explanation of packaging requirement or exception
		33	The ends of the detonating cord must be sealed and tied fast.	57	Liner or inner coating is required for metal outer packagings unless another means, such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.
1	Water soluble substances must be packed in waterproof receptacles.	34	The ends of the detonating cord must be sealed. Spaces must be filled with packing material.		
2	Packages must be lead-free.	35	Packagings must be sealed against the ingress of water.		
3	The barrels and drums must have a watertight seal.	36	The detonators must be cushioned to prevent significant movement and contact between them.	58	Plastic receptacles must have taped screw cap closures and be of not more than 5 liters capacity each. Each receptacle must be contained within an intermediate packaging. Each plastic bag must be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material; metal cans in the outer packaging must also be cushioned from each other in all directions. Net mass of propellant must be limited to 30 kg for each package.
4	The intermediate and outer packagings must be filled with water or an appropriate water-saturated material when the intermediate packaging is a rubber or rubberized textile bag.	38	The detonating fuses must be separated from each other in the inner packaging.		
7	Metal drums used for powder paste must be so constructed that explosion is not possible by reason of increase in internal pressure from internal or external causes.	41	The primers must be packed with shock-absorbent layers of felt, paper or plastic to prevent propagation within the outer packaging.		
8	The inside of drums and jerricans must be galvanized, painted or otherwise protected. Bare steel may not come into contact with smokeless powder.	42	The outer plastic packagings must be reinforced with metal at corners and edge.		
9	Drums or jerricans of steel must be constructed without pockets or crevices in which smokeless powder could be trapped or nipped.	43	The signals must be separated to prevent contact with one another and kept apart from the bottom, walls, and lid of the outer packaging, e.g., by cushioning material.	59	The intermediate drum must be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material. A composite packaging consisting of a plastic receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellant in each packaging must not exceed 120 liters.
10	Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced.	44	Where the signals are contained in magazines for fitting into automatic units, the magazine may replace the inner packaging if adequate cushioning material is used.		
11	The inner packagings must be sealed.	45	Tin-plate inner packagings must be sealed.	60	Plastic bags may be used as inner packagings for model rocket motors.
12	Outer boxes of natural wood may be provided with a tin-plate liner having a sealed lid.	46	The sounding device must be wrapped individually in corrugated fiberboard sheets or inserted in fiberboard tubes.	D1	The intermediate packaging must be entirely surrounded by wetted cushioning material within the outer packaging.
13	Open ends of inner packagings must be fitted with padded end caps or the outer packaging must be padded.	47	Absorbent cushioning material must be inserted.		
22	The inner packagings must be separated from the outer packaging by a gap of not less than 25 mm (1 inch) of cushioning material, e.g., sawdust, wood, wool.	48	Large articles without propelling charge and without means of ignition or initiation may be carried unpacked.		
28	Metal inner packagings must be padded with cushioning material.	49	Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpacked.		
30	The shaped charges must be packed so that contact between them is prevented.	50	Large articles without their means of ignition may be carried unpacked.		
31	The conical cavities of the shaped charges must face inward in pairs or groups to minimize the shaped charge (jetting) effect in the event of accidental initiation.	53	Bags, sift-proof (5H2) recommended only for flake or prilled TNT in the dry state and a maximum net mass of 30 kg (66 pounds).		
32	The ends of the articles must be sealed or the use of bags, plastics, as inner packaging is mandatory.	55	Not more than 50 g (1.8 ounces) of a substance may be packed in an inner packaging.		
		56	Fiberboard boxes (4G) are not authorized outer packagings for UN0106 or UN0107.		

Number identifying packaging requirement or exception	Explanation of packaging requirement or exception	Number identifying packaging requirement or exception	Explanation of packaging requirement or exception
D2	Quantity limitations for all detonators are as follows unless specifically defined for each type of detonator: (a) For detonators containing no more than 10 g of explosive (excluding ignition and delay charges): (i) No more than 50 detonators may be packed in one inner packaging. (ii) No more than 500 detonators may be packed in one outer packaging. (b) For detonators containing no more than 3 g of explosive (excluding ignition and delay charges): (i) No more than 100 detonators may be packed in one inner packaging. (ii) No more than 1000 detonators may be packed in one outer packaging. (c) There are no quantity limitations for detonators classed as 1.4B or 1.4S. The number of detonators that may be packed in each inner or outer (if inner packaging is not required) packaging is determined by: (i) The ability of that package to pass certain tests (see § 173.57) that qualify the detonators to be classed as 1.4B or 1.4S; or (ii) The gross weight limitations of the packaging used.	D8	Quantity limitations for detonator assemblies with safety fuse or shock tube are: (a) No more than 50 detonator assemblies may be packed in one inner packaging. (b) No more than 1,000 detonator assemblies may be packed in one outer packaging.
D3	Inner packaging is not required for electric detonators when packed in pasteboard tubes, or when their leg wires are wound on spools with the caps either placed inside the spool or securely taped to the wire on the spool, so as to restrict freedom of movement of the caps and to protect them from impact forces. No more than 500 electric blasting caps may be contained in one outer packaging.	D9	Primers fitted with anvil, composition not covered with a disc of metal foil or other material (varnished only). (a) The primers must be packed in rows in single layers in trays of fiberboard or plastic. (b) Not more than 500 primers may be packed in an inner packaging.
D4	Intermediate packagings are required only for non-electric detonators that are blasting caps or delay connectors in metal tubes.	D10	Detonators that are non-electric (including percussion activated) or detonating relays in metal tubes must be packed as follows: (a) The detonators must be packed in an inner packaging with the open end of any detonator covered with appropriate cushioning material; (b) Inner packagings must be snugly packed in an intermediate packaging; (c) Intermediate packagings must be separated from the outside packaging by at least 25 mm (1 inch) of cushioning material; (d) Detonators containing no more than 10 g of explosive (excluding ignition and delay charges) must be packed as follows: (i) No more than 50 detonators in one inner packaging. (ii) No more than 500 detonators in one outer packaging. (e) Detonators containing no more than 3 g of explosive (excluding ignition and delay charges) must be packed as follows: (i) No more than 110 detonators in one inner packaging. (ii) No more than 5,000 detonators in one outer packaging.
D5	Detonators are not required to be attached to the safety fuse, metal-clad mild detonating cord, detonating cord, or shock tube.	D11	Primers not fitted with an anvil, composition covered, not more than 5,000 primers may be packed in an inner packaging.
D6	Inner packagings are not required if the packing configuration restricts freedom of movement of the caps and protects them from impact forces.	D12	Large articles may be carried unpackaged.
D7	Quantity limitations for detonator assemblies with detonating cord are: (a) No more than 50 detonator assemblies may be packed in one inner packaging. (b) No more than 500 detonator assemblies may be packed in one outer packaging.	D13	No inner packaging required for drums, fiber (1G).
		D14	Inner packaging is not required with fiberboard boxes (4G) for packaging UN 0332.
		D15	Sheets, waterproof, when used, must also be impervious to any liquid explosive ingredients of the substance.

§ 173.62 [Amended]

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

47. In § 173.115, the heading and the introductory text of paragraph (b) are revised to read as follows:

§ 173.115 Class 2, Divisions 2.1, 2.2, and 2.3—Definitions

* * * * *

(b) Division 2.2 (non-flammable, nonpoisonous compressed gas—including compressed gas, liquefied gas, pressurized cryogenic gas, compressed gas in solution, asphyxiant gas and oxidizing gas). For the purpose of this subchapter, a non-flammable, nonpoisonous compressed gas (Division 2.2) means any material (or mixture) which—

* * * * *

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

§ 173.120 Class 3—Definitions

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

- (1) Any liquid meeting one of the definitions specified in § 173.115.
- (2) Any mixture having one or more components with a flash point of 60.5°C (141°F) or higher, that make up at least 99 percent of the total volume of the mixture, if the mixture is not offered for transportation or transported at or above its flash point.
- (3) Any liquid with a flash point greater than 35°C (95°F) which does not sustain combustion. A procedure for determining if a material sustains combustion when heated under test conditions and exposed to an external source of flame is provided in Appendix H of this part.
- (4) Any liquid with a flash point greater than 35°C (95°F) and with a fire point greater than 100°C (212°F) according to ISO 2592.
- (5) Any liquid with a flash point greater than 35°C (95°F) which is in a water-miscible solution with a water content of more than 90 percent by mass.

(b) * * *

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

§ 173.120 [Amended]

49. In addition, in § 173.120, the following changes are made: a. In paragraph (c)(1)(i)(A), the wording "ASTM D56-79" is revised to read "ASTM D 56".

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

c. In paragraph (c)(1)(ii)(A), the wording "ASTM D93-80" is revised to read "ASTM D 93" each place it appears.

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

§ 173.121 Class 3—Assignment of packing group

- (b) * * *
- (1) * * *
- (ii) * * * (Note: The mixture is not necessarily required to bear a POISON or CORROSIVE subsidiary risk label.);
- (iv) * * *

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

(2) * * *

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

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

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

(a) * * *

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(G) *Type G.* Self-reactive material type G is a self-reactive material which, in laboratory testing, does not detonate in the cavitated state, will not deflagrate at all, shows no effect when heated under confinement, nor shows any explosive power. A type G self-reactive material is not subject to the requirements of this subchapter for self-reactive material of Division 4.1 provided that it is thermally stable (self-accelerating decomposition temperature is 50°C (122°F) or higher for a 50 kg (110 pounds) package). A self-reactive material meeting all characteristics of type G except thermal stability is classed as a type F self-reactive, temperature control material.

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

(A) Its physical state (i.e. liquid or solid), in accordance with the definition of liquid and solid in § 171.8 of this subchapter;

(B) A determination as to its control temperature and emergency temperature, if any, under the provisions of § 173.21(f);

(C) Performance of the self-reactive material under the test procedures specified in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria and the provisions of paragraph (a)(2)(iii) of this section; and

(D) Except for a self-reactive material which is identified by technical name in the Self-Reactive Materials Table in § 173.224(b) or a self-reactive material which may be shipped as a sample under the provisions of § 173.224, the self-reactive material is approved in writing by the Associate Administrator for Hazardous Materials Safety. The person requesting approval shall submit to the Associate Administrator for Hazardous Materials Safety the tentative

shipping description and generic type and—

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

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

(iv) *Tests.* The generic type for a self-reactive material must be determined using the testing protocol from Figure 14.2 (Flow Chart for Assigning Self-Reactive Substances to Division 4.1) from the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria.

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

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

* * * * *

(b) * * *

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

* * * * *

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

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

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

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

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

competent authority of a foreign government.

* * * * *

§ 173.128 [Amended]

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

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

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

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

§ 173.136 *Class 8—Definitions*

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

* * * * *

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

§ 173.137 *Class 8—Assignment of packing group*

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

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

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

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

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

(2) That do not cause full thickness destruction of intact skin tissue but exhibit a corrosion rate on steel or aluminum surfaces exceeding 6.25 mm (0.25 inch) a year at a test temperature

of 55°C (130°F). For the purpose of testing steel P3 (ISO 9328-1) or a similar type, and for testing aluminum, non-clad types 7075-T6 or AZ5GU-T6 should be used. An acceptable test is described in ASTM G 31-72 (Reapproved 1990).

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

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

* * * * *

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

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

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

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

* * * * *

§ 173.150 [Amended]

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

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

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

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

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

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

* * * * *

(b) * * *

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

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

(ii) For Type B or C organic peroxides, inner packagings not over 25 ml (0.845 ounces) net capacity each for liquids or 100 g (3.528 ounces) net capacity for

solids, packed in strong outer packagings.

59. In § 173.158, a new paragraph (f)(3) is added to read as follows:

§ 173.158 Nitric acid

(f) * * *
(3) In combination packagings with 1A2, 1B2, 1D, 1G, 1H2, 3H2, 4C1, 4C2, 4D, 4F or 4G outer packagings and plastic inner packagings not over 2.5 L (0.66 gallon) capacity further individually overpacked in tightly closed metal packagings.

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

§ 173.164 Mercury (metallic and articles containing mercury)

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

(c) Manufactured articles or apparatuses containing not more than 100 mg (0.0035 ounce) mercury are excepted from the specification packaging requirements of this subchapter when packaged as follows:

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

§ 173.164 [Amended]

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

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

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

c. In paragraph (a)(2), immediately following the wording "'quicksilver flasks'" the wording "of not more than 3.5 kg (7.7 pounds) capacity each" is added.

62. Section 173.166 is amended by revising the section heading, adding a

new last sentence in paragraph (a), revising paragraph (b), the last sentence of paragraph (c) and paragraph (d)(1) to read as follows:

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

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

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

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

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

(3) The manufacturer submits an application, including—

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

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

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

(5) Air bag inflators or seat belt pre-tensioners previously reclassified from Class 1 to Division 4.1 under the terms of an exemption may be reclassified as Class 9 materials without further testing.

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

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

§ 173.166 [Amended]

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

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

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

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

§ 173.171 [Amended]

64. In § 173.171, in paragraph (a), the wording "Division 1.3 classification" is revised to read "Division 1.3 and Division 4.1 classification", and the reference "§ 173.56" is revised to read "§§ 173.56 and 173.58".

65. In § 173.173, the section heading and paragraph (b) introductory text are revised to read as follows:

§ 173.173 Paint, paint-related material, adhesives, ink and resins

(b) Paint, paint-related material, adhesives, ink and resins must be packaged as follows:

66. Section 173.185 is revised to read as follows:

§ 173.185 Lithium cells and batteries

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

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

(1) Each cell with a liquid cathode may contain no more than 0.5 g (0.02 ounce) of lithium or lithium alloy, and each cell with a solid cathode may contain no more than 1.0 g (0.04 ounce) lithium or lithium alloy;

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

(3) Each cell must be hermetically sealed;

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

(5) If a liquid cathode battery contains more than 0.5 g (0.02 ounce) of lithium or lithium alloy or a solid cathode battery contains more than 1.0 g (0.04 ounce) lithium or lithium alloy, it may not contain a liquid or gas that is a hazardous material according to this subchapter unless the liquid or gas, if free, would be completely absorbed or neutralized by other materials in the battery.

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

(1) Each cell contains not more than 5 g (0.18 ounces) of lithium or lithium alloy;

(2) Each battery contains not more than 25 g (0.88 ounces) of lithium or lithium alloy;

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

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

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

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

(1) Cells must not contain more than 12 g (0.42 ounce) of lithium or lithium alloy. When transported by passenger aircraft cells must not contain more than 3 g (0.11 ounces) of lithium or lithium alloy.

(2) Batteries must not contain more than 500 g (17.6 ounces) of lithium or lithium alloy. When transported by

passenger aircraft, batteries must not contain more than 125 g (4.4 ounces) of lithium or lithium alloy.

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

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

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

(6) Cells and batteries must be packed in strong inner packagings containing not more than 500 g (17.6 ounces) of lithium or lithium alloy. When transported by passenger aircraft, inner packagings must not contain more than 125 g (4.4 ounces) of lithium or lithium alloy.

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

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

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

(ii) Cells and batteries intended for air transportation must be packaged in metal drums (1A2 or 1B2) fitted with gas-tight gaskets; and

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

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

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

(ii) Ten cells and one battery of each type taken from production each week should be subjected to extreme temperature exposure and the short circuit test procedures in Part IV of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, or, equivalent tests approved by the Associate Administrator for Hazardous Materials Safety. There should be no evidence of distortion, leakage or internal heating in conducting the extreme temperature exposure test procedure. In conducting the short

circuit test procedure, if venting occurs, an open flame applied to venting fumes should not produce an explosive condition; or

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

(10) Except as provided in paragraph (i) of this section, cells or batteries may not be offered for transportation or transported if any cell has been discharged to the extent that the open circuit voltage is less than two volts or is less than $\frac{2}{3}$ of the voltage of the fully charged cell, whichever is less.

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

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

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

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

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

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

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

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

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

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

67. Section 173.189 is added to read as follows:

§ 173.189 Batteries containing sodium or cells containing sodium

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

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

(c) Batteries must consist of cells secured within, and fully enclosed by a metal casing so constructed and closed as to prevent the release of the hazardous materials under normal conditions of transport. Batteries may be offered for transportation, and transported, unpacked or in protective

packagings that are not subject to the requirements of part 178 of this subchapter.

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

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

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

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

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

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

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

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

(e) Batteries containing sodium or cells containing sodium, when installed as part of a motor vehicle, are not subject to the requirements of this subchapter.

§ 173.196 [Amended]

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

§ 173.211 [Amended]

69. In § 173.211, in paragraph (c), for the entry "Steel box with liner," the

wording "4A2" is revised to read "4A"; and for the entry "Aluminum box with liner:" the wording "4B2" is revised to read "4B".

§ 173.212 [Amended]

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

§ 173.213 [Amended]

71. In § 173.213, in paragraph (c), for the entry "Steel box with liner:" the wording "4A2" is revised to read "4A"; for the entry "Steel box:" the wording "4A1" is revised to read "4A"; and for the entry "Aluminum box with liner:" the wording "4B2" is revised to read "4B".

72. Section 173.224 is revised to read as follows:

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

(a) *General.* When the § 172.101 Table of this subchapter specifies that a Division 4.1 material be packaged in accordance with this section, only packagings which conform to the provisions of this section may be used. Each packaging must conform to the general packaging requirements of subpart B of this part and the applicable requirements of part 178 of this subchapter. Non-bulk packagings must meet Packing Group II performance levels. To avoid unnecessary confinement, metallic non-bulk packagings meeting Packing Group I are not authorized. Self-reactive materials which require temperature control are subject to the provisions of § 173.21(f). Packagings required to bear a Class 1 subsidiary label must conform to §§ 173.60 through 173.62.

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

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

(2) *ID number.* Column 2 specifies the identification number which is used to identify the proper shipping name in the § 172.101 Table.

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

(4) *Packing method.* Column 4 specifies the highest packing method which is authorized for the self-reactive material. A packing method corresponding to a smaller package size may be used, but a packing method corresponding to a larger package size may not be used. The Table of Packing Methods in § 173.225(d) defines the packing methods. Additional bulk packagings are authorized in paragraph (d) of this section for Type F self-reactive materials.

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

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

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

SELF-REACTIVE MATERIALS TABLE

Self-reactive substance (1)	Identifica- tion num- ber (2)	Concentra- tion—(%) (3)	Packing method (4)	Control tem- perature—(°C) (5)	Emer- gency tem- perature— (°C) (6)	Notes (7)
Azodicarbonamide formulation type B	3232	<100	OP5B			
Azodicarbonamide formulation type C	3234	<100	OP6A			
Azodicarbonamide formulation type D	3236	<100	OP7B			
2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitrile)	3236	100	OP7B	-5	+5	
2,2'-Azodi(2,4-dimethylvaleronitrile)	3236	100	OP7B	+10	+15	
2,2'-Azodi(ethyl 2-methylpropionate)	3235	100	OP7A	+20	+25	
1,1-Azodi(hexahydrobenzoxazine)	3236	100	OP7B			
2,2'-Azodi(isobutyronitrile)	3234	100	OP6B	+40	45	
2,2'-Azodi(2-methylbutyronitrile)	3236	100	OP7B	+35	+40	
Benzene-1,3-disulphohydrazide, as a paste	3236	52	OP7B			
Benzene sulphohydrazide	3236	100	OP7B			
4-(Benzyl(ethyl)amino)-3-ethoxybenzenediazonium zinc chloride	3236	100	OP7B			
4-(Benzyl(methyl)amino)-3-ethoxybenzenediazonium zinc chloride	3236	100	OP7B	+40	+45	
3-Chloro-4-Diethylamino-benzenediazonium zinc chloride	3236	100	OP7B			
2-Diazo-1-Naphthol-4-sulphochloride	3222	100	OP5B			
2-Diazo-1-Naphthol-5-sulphochloride	3222	100	OP5B			
2,5-Diethoxy-4-morpholino-benzenediazonium zinc chloride	3236	67-100	OP7B	+35	+40	
2,5-Diethoxy-4-morpholino-benzenediazonium zinc chloride	3236	66	OP7B	+40	+45	
2,5-Diethoxy-4-morpholino-benzenediazonium tetrafluoroborate	3236	100	OP7B	+30	+35	
2,5-Diethoxy-4-(phenylsulphonyl)benzenediazonium zinc chloride	3236	67	OP7B	+40	+45	
2,5-Dimethoxy-4-(4-methylphenylsulphonyl)benzene-diazonium zinc chloride	3236	79	OP7B	+40	+45	
4-Dimethylamino-6-(2-dimethylaminoethoxy)toluene-2-diazonium zinc chloride	3236	100	OP7B	+40	+45	
N,N'-Dinitroso-N,N'-dimethyl-terephthalamide, as a paste	3224	72	OP6B			
N,N'-Dinitrosopentamethylenetetramine	3224	82	OP6B			1
Diphenyloxide-4,4-Dsulphohydrazide	3226	100	OP7B			
4-Dipropylaminobenzenediazonium zinc chloride	3226	100	OP7B			
2-(N,N-Ethoxycarbonylphenylamino)-3-methoxy-4-(N-methyl-N-cyclohexylamino)benzenediazonium zinc chloride	3236	63-92	OP7B	+40	+45	
2-(N,N-Ethoxycarbonylphenylamino)-3-methoxy-4-(N-methyl-N-cyclohexylamino)benzenediazonium zinc chloride	3236	62	OP7B	+35	+40	
N-Formyl-2-(nitromethylene)-1,3-perhydrothiazine	3236	100	OP7B	+45	+50	
2-(2-Hydroxyethoxy)-1-(pyrrolidin-1-yl)benzene-4-diazonium zinc chloride	3236	100	OP7B	+45	+50	
3-(2-Hydroxyethoxy)-4-(pyrrolidin-1-yl)benzenediazonium zinc chloride	3236	100	OP7B	+40	+45	
2-(N,N-Methylaminoethylcarbonyl)-4-(3,4-dimethylphenylsulphonyl)benzene-diazonium zinc chloride	3236	96	OP7B	+45	+50	
4-Methylbenzenesulphonylhydrazide	3226	100	OP7B	+40	+45	
3-Methyl-4-(pyrrolidin-1-yl) benzenediazonium tetrafluoroborate	3234	95	OP6B	+45	+50	
4-Nitrosophenol	3236	100	OP7B	+35	+40	
Self-reactive liquid, sample	3223		OP2A			2
Self-reactive liquid, sample, temperature control	3233		OP2A			2
Self-reactive solid, sample	3224		OP2B			2
Self-reactive solid, sample, temperature control	3234		OP2B			2
Sodium 2-diazo-1-naphthol-4-sulphonate	3226	100	OP7B			
Sodium 2-diazo-1-naphthol-5-sulphonate	3226	100	OP7B			
Tetramine palladium (II) nitrate	3234	100	OP6B	+30	+35	

Notes:

1. With a compatible diluent having a boiling point of not less than 150° C.

2. Samples may only be offered for transportation when all available data indicate that the sample is no more dangerous than a self-reactive substance type C, and the sample is packaged using packaging method OP2A for liquids or OP2B for solids, as appropriate, in quantities less than 10 kg per shipment, employing any necessary temperature controls.

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

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

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

PACKING METHOD TABLE FOR GENERIC TYPES

UN No. (1)	Proper shipping name (2)	Packing method (3)
3221	Self-reactive liquid Type B.	OP1A-OP5A.
3222	Self-reactive solid Type B.	OP1B-OP5B.
3223	Self-reactive liquid Type C.	OP1A-OP6A.
3224	Self-reactive solid Type C.	OP1B-OP6B.
3225	Self-reactive liquid Type D.	OP1A-OP7A.
3226	Self-reactive solid Type D.	OP1B-OP7B.
3227	Self-reactive liquid Type E.	OP1A-OP8A.

PACKING METHOD TABLE FOR GENERIC TYPES—Continued

UN No. (1)	Proper shipping name (2)	Packing method (3)
3228	Self-reactive solid Type E.	OP1B-OP8B.
3229	Self-reactive liquid Type F.	OP1A-OP8A.
3230	Self-reactive solid Type F.	OP1B-OP8B.
3231	Self-reactive liquid Type B, temperature controlled.	OP1A-OP5A.
3232	Self-reactive solid Type B, temperature controlled.	OP1B-OP6B.
3233	Self-reactive liquid Type C, temperature controlled.	OP1A-OP6A.
3234	Self-reactive solid Type C, temperature controlled.	OP1B-OP7B.
3235	Self-reactive liquid Type D, temperature controlled.	OP1A-OP7A.
3236	Self-reactive solid Type D, temperature controlled.	OP1B-OP8B.
3237	Self-reactive liquid Type E, temperature controlled.	OP1A-OP8A.
3238	Self-reactive solid Type E, temperature controlled.	OP1B-OP8B.
3239	Self-reactive liquid Type F, temperature controlled.	OP1A-OP8A.
3240	Self-reactive solid Type F, temperature controlled.	OP1B-OP8B.

(4) *Samples.* Samples of new self-reactive materials or new formulations of self-reactive materials identified in the Self-Reactive Materials Table in paragraph (b) of this section, for which complete test data are not available, and

which are to be transported for further testing or evaluation, may be assigned an appropriate shipping description for Self-reactive materials Type C, packaged and offered for transportation under the following conditions:

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

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

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

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

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

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

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

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

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

73. In § 173.225, the fourth sentence of paragraph (a) and the Organic Peroxides Table in paragraph (b) are revised, a new paragraph (c)(5) is added, and paragraph (e)(3)(ii) is revised to read as follows: § 173.225 *Packaging requirements and other provisions for organic peroxides.*

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

(b) * * *

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ORGANIC PEROXIDES TABLE

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %)			Water (Mass %) (5)	Packing Method (6)	Temperature(°C)		Notes (8)
			A	B	I			Control (7a)	Emergency (7b)	
			(4a)	(4b)	(4c)					
Acetyl acetone peroxide	UN3105	≤42	≥48		≥8	OP7A			2	

ORGANIC PEROXIDES TABLE—Continued

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %)			Water (Mass %) (5)	Packing Method (6)	Temperature (°C)		Notes (8)
			A (4a)	B (4b)	I (4c)			Control (7a)	Emer- gency (7b)	
Acetyl acetone peroxide as a paste	UN3106	≤32					OP7B			21
Acetyl benzoyl peroxide	UN3105	≤45	≥55				OP7A			
Acetyl cyclohexanesulfonyl peroxide	UN3112	≤82				≥12	OP7A	-10	0	
Acetyl cyclohexanesulfonyl peroxide	UN3115	≤32		≥68			OP7A	-10	0	
tert-Amyl hydroperoxide	UN3107	≤88	≥6			≥6	OP8A			
tert-Amyl peroxyacetate	UN3107	≤62	≥38				OP8A			
tert-Amyl peroxybenzoate	UN3105	≤96	≥4				OP7A			
tert-Amyl peroxy-2-ethylhexanoate	UN3115	≤100					OP7A	+20	+25	
tert-Amyl peroxy-2-ethylhexyl carbonate	UN3105	≤100					OP7A			
tert-Amyl peroxyneodecanoate	UN3115	≤77		≥23			OP7A	0	+10	
tert-Amyl peroxyvalerate	UN3113	≤77		≥23			OP5A	+10	+15	
tert-Amyl peroxy-3,5,5-trimethylhexanoate	UN3101	≤100					OP5A			
2,2-Bis(4,4-di-tert-butylperoxy)cyclohexylpropane	UN3107	≤25		≥75			OP5A			
tert-Butyl cumyl peroxide	UN3105	>42-100					OP7A			1, 9
tert-Butyl cumyl peroxide	UN3106	≤42		≥58			OP7B			1, 9
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3103	>52-100					OP5A			
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3105	>42-52		≥48			OP7B			
n-Butyl-4,4-di-(tert-butylperoxy)valerate	UN3108	≤42		≥58			OP8B			
tert-Butyl hydroperoxide	UN3105	>70-90				≥10	OP5A			13
tert-Butyl hydroperoxide	UN3105	≤80	≥20				OP7A			4, 13
tert-Butyl hydroperoxide	UN3107	≤79				≤14	OP8A			13, 16
tert-Butyl hydroperoxide	UN3109	≤72				≥28	OP8A			7, 18
tert-Butyl hydroperoxide and	UN3103	<42 + >9				≥7	OP5A			18
Di-tert-butylperoxide										
tert-Butyl monoperoxymaleate	UN3102	>52-100					OP5B			
tert-Butyl monoperoxymaleate	UN3103	≤52	≥48				OP6A			
tert-Butyl monoperoxymaleate	UN3108	≤52		≥48			OP8B			
tert-Butyl monoperoxymaleate as a paste	UN3108	≤52					OP8B			21
tert-Butyl monoperoxymaleate as a paste	UN3010	≤42					OP8B			21
tert-Butyl monoperoxyphthalate	UN3102	≤100					OP5B			
tert-Butyl peroxyacetate	UN3101	>52-77	≥23				OP5A			
tert-Butyl peroxyacetate	UN3103	>32-52	≥48				OP6A			
tert-Butyl peroxyacetate	UN3105	≤32	≥68				OP8A			
tert-Butyl peroxyacetate	UN3119	≤32		≥68				+30	+35	10
tert-Butyl peroxyacetate	UN3109	≤22	≥78				OP8A			14
tert-Butyl peroxybenzoate	UN3103	>77-100	≥22				OP5A			
tert-Butyl peroxybenzoate	UN3105	>52-77	≥23				OP7A			1
tert-Butyl peroxybenzoate	UN3106	≤52		≥48			OP7B			
tert-Butyl peroxybutyl fumarate	UN3105	≤52	≥48				OP7A			
tert-Butyl peroxyprotonate	UN3105	≤77	≥23				OP7A			
tert-Butyl peroxydiethylacetate	UN3113	≤100					OP5A	+20	+25	
tert-Butyl peroxydiethylacetate and	UN3105	≤33 + >33	≥33				OP7	A		
tert-Butyl peroxybenzoate										
tert-Butyl peroxy-2-ethylhexanoate	UN3118	>52-100					OP6A	+20	+25	
tert-Butyl peroxy-2-ethylhexanoate	UN3117	>32-52	≥48				OP6A	+30	+35	
tert-Butyl peroxy-2-ethylhexanoate	UN3118	≤52		≥48			OP8B	+20	+25	
tert-Butyl peroxy-2-ethylhexanoate	UN3119	≤32	≥68				OP8A	+40	+45	
tert-Butyl peroxy-2-ethylhexanoate	UN3119	≤32	≥68					+30	+35	10
tert-Butyl peroxy-2-ethylhexanoate	UN3119	≤32	≥68					+10	+15	14
tert-Butyl peroxy-2-ethylhexanoate and	UN3115	≤31 + >36	≥33				OP7A	+35	+40	
2,2-di-(tert-butylperoxy)butane										
2,2-di-(tert-butylperoxy)butane and	UN3106	≤12 + >14	≥14			≥60	OP7B			
2,2-di-(tert-butylperoxy)butane										
tert-Butyl peroxy-2-ethylhexylcarbonate	UN3105	≤100					OP7A			
tert-Butyl peroxyisobutyrate	UN3111	>52-77	≥23				OP5A	+15	+20	
tert-Butyl peroxyisobutyrate	UN3115	≤52	≥48				OP7A	+15	+20	
tert-Butylperoxy isopropylcarbonate	UN3103	≤77	≥23				OP5A			
1-(2-tert-butylperoxy isopropyl)-3-isopropenylbenzene	UN3105	≤77	≥23				OP7A			
1-(2-tert-butylperoxy isopropyl)-3-isopropenylbenzene	UN3108	≤42		≥58			OP8B			
tert-Butyl peroxy-2-methylbenzoate	UN3103	≤100					OP5A			
tert-Butyl peroxyneodecanoate	UN3115	>77-100					OP7A	-5	+5	
tert-Butyl peroxyneodecanoate	UN3115	≤77	≥23				OP7A	0	+10	
tert-Butyl peroxyneodecanoate as a paste	UN3117	≤42					OP8A	0	+10	21
tert-Butyl peroxyneodecanoate as a paste (frozen)	UN3118	≤42					OP8B	0	+10	21
tert-Butyl peroxyneodecanoate	UN3115	≤77	≥23				OP7A	+10	+15	
3-tert-butylperoxy-3-phenylphthalate	UN3108	≤100					OP7B			
tert-Butyl peroxyvalerate	UN3113	>57-77	≥23				OP5A	0	+10	
tert-Butyl peroxyvalerate	UN3115	>27-67	≥33				OP7A	0	+10	
tert-Butyl peroxyvalerate	UN3119	≤27	≥73				OP8A	+30	+35	
tert-Butyl peroxyvalerate	UN3119	≤27	≥73					+10	+15	10
tert-Butyl peroxyvalerate	UN3119	≤27	≥73					-5	+5	14
tert-Butylperoxy stearylcarbonate	UN3106	≤100					OP7B			
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3105	>32-100					OP7A			
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3109	≤32	≥68				OP8A			10
tert-Butyl peroxy-3,5,5-trimethylhexanoate	UN3119	≤32	≥68					+35	+40	14
3-Chloroperoxybenzoic acid	UN3102	>57-86		≥14			OP1B			
3-Chloroperoxybenzoic acid	UN3106	≤72		≥10		≥18	OP7B			
3-Chloroperoxybenzoic acid	UN3106	≤57		≥3		≥40	OP7B			
Cumyl hydroperoxide	UN3107	>90-98	≥10				OP8A			13
Cumyl hydroperoxide	UN3109	≤90	≥10				OP8A			7, 13, 15
Cumyl peroxyneodecanoate	UN3115	≤77	≥23				OP7A	-10	0	
Cumyl peroxyneodecanoate	UN3115	≤77	≥23				OP7A	0	+10	
Cumyl peroxyvalerate	UN3115	≤77	≥23				OP7A	-5	+5	
Cyclohexanone peroxide(s)	UN3104	≤91				≥9	OP6B			13
Cyclohexanone peroxide(s)	UN3105	≤72	≥28				OP7A			5
Cyclohexanone peroxide(s)	Exempt	≤32		≥68			Exempt			
Cyclohexanone peroxide(s) as a paste	UN3106	≤72					OP7B			5, 21
Diacetone alcohol peroxides	UN3115	≤57	≥26			≥8	OP7A	+40	+45	5
Diacetyl peroxide	UN3115	≤27	≥73				OP7A	+20	+25	8

ORGANIC PEROXIDES TABLE—Continued

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %)			Water (Mass %) (5)	Packing Method (6)	Temperature(°C)		Notes (8)
			A (4a)	B (4b)	I (4c)			Control (7a)	Emerg- ency (7b)	
Diacetyl peroxide	UN3115	≤27		≥73			OP7A	+20	+25	8, 13
Di-tert-amyl peroxide	UN3107	≤100					OP8A			
1,1-Di-(tert-amylperoxy)cyclohexane	UN3103	≤82	≥18				OP6A			
Dibenzoyl peroxide	UN3102	>51 - 100		≤48			OP2B			3
Dibenzoyl peroxide	UN3102	>77 - 94				≥6	OP4B			3
Dibenzoyl peroxide	UN3104	≤77				≥23	OP6B			
Dibenzoyl peroxide	UN3106	≤62		≥28		≥10	OP7B			
Dibenzoyl peroxide	UN3106	>35 - 52		≥48			OP7B			
Dibenzoyl peroxide	UN3107	>36 - 42	≥18			≤40	OP8A			
Dibenzoyl peroxide	UN3107	>36 - 42	≥58				OP8A			
Dibenzoyl peroxide	Exempt	≤35		≥65			Exempt			
Dibenzoyl peroxide as a paste	UN3106	>52 - 62					OP7B			21
Dibenzoyl peroxide as a paste	UN3108	≤56				≥15	OP8B			
Dibenzoyl peroxide as a paste	UN3108	≤52					OP8B			21
Dibenzoyl peroxide as a paste	Exempt	≤50				≥18	Exempt			21
Dibenzyl peroxydicarbonate	UN3112	≤87				≥13	OP5B	+25	+30	
Di-(4-tert-butylcyclohexyl)peroxydicarbonate	UN3114	≤100					OP6B	+30	+35	
Di-(4-tert-butylcyclohexyl)peroxydicarbonate as a stable dispersion in water	UN3119	≤42					OP8A	+30	+35	10
Di-tert-butyl peroxide	UN3107	>32 - 100					OP8A			
Di-tert-butyl peroxide	UN3109	≤32	≥68				OP8A			7
Di-tert-butyl peroxide	UN3109	≤22		≥78			OP8A			7
Di-tert-butyl peroxyazelaate	UN3105	≤52	≥48				OP7A			
2,2-Di-(tert-butylperoxy)butane	UN3103	≤52	≥48				OP6A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3101	>80 - 100					OP6A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3103	>52 - 80	≥20				OP5A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3105	≤52	≥48				OP7A			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3106	≤42	≥13		≥45		OP7B			
1,1-Di-(tert-butylperoxy)cyclohexane	UN3107	≤27	≥36				OP8A			22
1,1-Di-(tert-butylperoxy)cyclohexane	UN3109	≤25	≥25	≥50			OP8A			7
1,1-Di-(tert-butylperoxy)cyclohexane	UN3109	≤13	≥13	≥74			OP8A			7
Di-n-butyl peroxydicarbonate	UN3115	>27 - 52		≥48			OP7A	-15	-5	
Di-sec-butyl peroxydicarbonate	UN3117	≤27		≥73			OP8A	-10	0	
Di-sec-butyl peroxydicarbonate	UN3113	>62 - 100					OP4A	-20	-10	6
Di-sec-butyl peroxydicarbonate	UN3115	≤52	≥48				OP7A	-15	-5	
Di-(2-tert-butylperoxyisopropyl)benzene(s)	UN3106	>42 - 100		≤57			OP7B			1, 9
Di-(2-tert-butylperoxyisopropyl)benzene(s)	Exempt	≤42		≥58			Exempt			
Di-(tert-butylperoxy)phthalate	UN3105	>42 - 52	≥48				OP7A			
Di-(tert-butylperoxy)phthalate	UN3107	≤42	≥58				OP9A			
Di-(tert-butylperoxy)phthalate as a paste	UN3106	≤52					OP7B			21
2,2-Di-(tert-butylperoxy)propane	UN3105	≤52	≥48				OP7A			
2,2-Di-(tert-butylperoxy)propane	UN3106	≤42	≥13		≥45		OP7B			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3101	>90 - 100					OP5A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3103	>57 - 90	≥10				OP5A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3106	≤57		≥43			OP7B			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3107	≤57	≥43				OP8A			
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	UN3107	≤32	≥26	≥42			OP8A			
Diethyl peroxydicarbonate	UN3116	≤100					OP7B	+20	+25	
Diethyl peroxydicarbonate as a stable dispersion in water	UN3119	≤42					OP8A	+30	+35	10
Di-4-chlorobenzoyl peroxide	UN3102	≤77				≥23	OP5B			
Di-4-chlorobenzoyl peroxide	Exempt	≤32		≥68			Exempt			
Di-4-chlorobenzoyl peroxide as a paste	UN3106	≤52					OP7B			21
Dicumyl peroxide	UN3109	>42 - 100					OP8A			7, 9, 11
Dicumyl peroxide	UN3110	>42 - 100		≤57			OP8B			7, 9, 11
Dicumyl peroxide	Exempt	≤52	≥48				Exempt			
Dicumyl peroxide	Exempt	≤42		≥58			Exempt			
Dicyclohexyl peroxydicarbonate	UN3112	>91 - 100					OP3B	+5	+10	
Dicyclohexyl peroxydicarbonate	UN3114	≤91				≥9	OP5B	+5	+10	
Didecanoyl peroxide	UN3114	≤100					OP6B	+30	+35	
2,2-Di-(4,4-di-(tert-butylperoxy)cyclohexyl)propane	UN3106	≤42			≥58		OP7B			
Di-2,4-dichlorobenzoyl peroxide	UN3102	≤77				≥23	OP5B			
Di-2,4-dichlorobenzoyl peroxide as a paste with silicone oil	UN3106	≤52					OP7B			
Di-(2-ethylhexyl) peroxydicarbonate	UN3113	>77 - 100					OP5A	-20	-10	
Di-(2-ethylhexyl) peroxydicarbonate	UN3115	≤77					OP7A	-15	-5	
Di-(2-ethylhexyl) peroxydicarbonate as a stable dispersion in water	UN3117	≤42					OP8A	-15	-5	
Di-(2-ethylhexyl) peroxydicarbonate as a stable dispersion in water (frozen)	UN3118	≤42					OP8B	-15	-5	
Diethyl peroxydicarbonate	UN3115	≤27		≥73			OP7A	-10	0	
2,2-Dihydroperoxypropane	UN3102	≤27		≥73			OP5B			
Di-(1-hydroxycyclohexyl)peroxide	UN3106	≤100					OP7B			
Diisobutyl peroxide	UN3111	>32 - 52		≥48			OP5A	-20	-10	
Diisobutyl peroxide	UN3115	≤32		≥68			OP7A	-20	-10	
Diisopropylbenzene dihydroperoxide	UN3106	≤82	≥5			≥5	OP7B			17
Diisopropyl peroxydicarbonate	UN3112	>52 - 100					OP2B	-15	-5	
Diisopropyl peroxydicarbonate	UN3115	≤52		≥48			OP7A	-10	0	
Diisotridecyl peroxydicarbonate	UN3115	≤100					OP7A	-10	0	
Dilauroyl peroxide	UN3106	≤100					OP7B			
Dilauroyl peroxide as a stable dispersion in water	UN3109	≤42					OP8A			10
Di-(2-methylbenzoyl) peroxide	UN3112	≤87				≥13	OP5B	+30	+35	
Di-(4-methylbenzoyl)peroxide as a paste with silicone oil	UN3106	≤52					OP7B			
2,5-Dimethyl-2,5-di-(benzoylperoxy)hexane	UN3102	>82 - 100					OP5B			
2,5-Dimethyl-2,5-di-(benzoylperoxy)hexane	UN3104	≤82				≥18	OP5B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3106	≤82		≥18			OP7B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3105	>52 - 100					OP7A			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane-3	UN3103	>52 - 100					OP5A			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3106	≤70			≥30		OP7B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane	UN3109	≤52	≥48				OP8A			7
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane-3	UN3106	≤52		≥48			OP7B			
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane as a paste	UN3108	≤47					OP8B			
2,5-Dimethyl-2,5-di-(2-ethylhexanoylperoxy)hexane	UN3115	≤100					OP7A	+20	+25	
2,5-Dimethyl-2,5-dihydroperoxyhexane	UN3104	≤82				≥18	OP6B			

ORGANIC PEROXIDES TABLE—Continued

Technical Name (1)	ID Number (2)	Concentration (Mass %) (3)	Diluent (Mass %)			Water (Mass %) (5)	Packing Method (6)	Temperature(°C)		Notes (8)
			A (4a)	B (4b)	I (4c)			Control (7a)	Emer- gency (7b)	
2,5-Dimethyl-2,5-di-(3,5,5-trimethylhexanoylperoxy)hexane	UN3105	≤77	≥23				OP7A			
1,1-Dimethyl-3-hydroxybutylperoxyneohexanoate	UN3117	≤52		≥48			OP8A	+0	+10	
Dimyristyl peroxydicarbonate	UN3116	≤100					OP7B	+20	+25	
Dimyristyl peroxydicarbonate as a stable dispersion in water	UN3119	≤42					OP8A	+20	+25	
Dimyristyl peroxydicarbonate as a stable dispersion in water	UN3119	≤42						+15	+25	10
Di-(2-neodecanoylperoxyisopropyl) benzene	UN3115	≤52	≥48				OP7A	-10	0	
Di-n-nonanoyl peroxide	UN3116	≤100					OP7B	0	+10	
Di-n-octanoyl peroxide	UN3114	≤100					OP5B	+10	+15	
Diperoxy azelaic acid	UN3116	≤27			≥73		OP7B	+35	+40	
Diperoxy dodecane diacid	UN3116	>13 - 42			≥58		OP7B	+40	+45	
Diperoxy dodecane diacid	Exempt	≤13			≥87		Exempt			
Di-(2-phenoxyethyl)peroxydicarbonate	UN3102	>85 - 100				IV 15	OP5B			
Di-(2-phenoxyethyl)peroxydicarbonate	UN3106	≤85					OP7B			
Dipropionyl peroxide	UN3117	≤27		≥73			OP8A	+15	+20	
Di-n-propyl peroxydicarbonate	UN3113	≤100					OP4A	-25	-15	
Distearyl peroxydicarbonate	UN3106	≤87			≥13		OP7B			
Disuccinic acid peroxide	UN3102	>72 - 100					OP4B			18
Disuccinic acid peroxide	UN3116	≤72				IV 28	OP7B	+10	+15	18
Di-(3,5,5-trimethyl-1,2-dioxolanyl-3) peroxide as a paste	UN3116	≤52					OP7B	+30	+35	21
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3115	>38 - 82	IV 18				OP7A	0	+10	
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	IV 62				OP8A	+20	+25	
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	IV 62					+10	+15	10
Di-(3,5,5-trimethylhexanoyl)peroxide	UN3119	≤38	IV 62					-10	0	14
Di-(3,5,5-trimethylhexanoyl)peroxide as a stable dispersion in water	UN3117	≤52					OP8A	+10	+15	
Ethyl 3,3-di-(tert-amylperoxy)butyrate	UN3105	≤67	IV 33				OP7A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3103	>77 - 100					OP5A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3105	≤77	IV 23				OP7A			
Ethyl 3,3-di-(tert-butylperoxy)butyrate	UN3106	≤52			≥48		OP7B			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3102	>52 - 100					OP4B			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3105	≤52	IV 48				OP7A			
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	UN3106	≤52			≥48		OP7B			
Isopropylcumyl hydroperoxide	UN3109	≤72	IV 28				OP8A			7, 13
p-Menthyl hydroperoxide	UN3105	> 56 - 100					OP7A			13
p-Menthyl hydroperoxide	UN3109	< 56	≤ 44				OP8A			7
Methyl ethyl ketone peroxide(s)	UN3101	≤52	IV 48				OP5A			5, 13
Methyl ethyl ketone peroxide(s)	UN3105	≤45	IV 55				OP7A			5
Methyl ethyl ketone peroxide(s)	UN3107	≤40	IV 60				OP8A			5
Methyl isobutyl ketone peroxide(s)	UN3105	≤62	IV 19				OP7A			5, 23
Methylcyclohexanone peroxide(s)	UN3115	≤67		≥33			OP7A	+35	+40	
Organic peroxide, liquid, sample	UN3103						OP2A			12
Organic peroxide, liquid, sample, temperature controlled	UN3113						OP2A			12
Organic peroxide, solid, sample	UN3104						OP2B			12
Organic peroxide, solid, sample, temperature controlled	UN3114						OP2B			12
Peracetic acid with 20% hydrogen peroxide	Exempt	< 6				IV 60	Exempt			
Peracetic acid with 7% hydrogen peroxide	UN3107	≤36				IV 15	OP8A			
Peroxyacetic acid, type D, stabilized	UN3105	≤43					OP7A			13, 20
Peroxyacetic acid, type E, stabilized	UN3107	≤43					OP8A			13, 20
Peroxyacetic acid, type F, stabilized	UN3109	≤43					OP8A			13, 20
Pinanyl hydroperoxide	UN3105	> 56 - 100					OP7A			13
Pinanyl hydroperoxide	UN3109	< 56	≤ 44				OP8A			7
Tetrahydronaphthyl hydroperoxide	UN3106	≤100					OP7B			
1,1,3,3-Tetramethylbutyl hydroperoxide	UN3105	≤100					OP7A			
1,1,3,3-Tetramethylbutylperoxy-2-ethylhexanoate	UN3115	≤100					OP7A	+20	+25	
2,4,4-Trimethylpentyl-2-peroxyneodecanoate	UN3115	≤72					OP7A	-5	+5	
2,4,4-Trimethylpentyl-2-peroxyphenylacetate	UN3115	≤37	IV 28	IV 63			OP7A	-10	0	

BILLING CODE 4910-60-F

Notes:

- For domestic shipments, OP8A is authorized.
- Available oxygen must be <4.7 percent.
- For concentrations <80 percent OP5B is allowed. For concentrations of at least 80 percent but <85 percent, OP4B is allowed. For concentrations of at least 85 percent, maximum package size is OP2B.
- The diluent may be replaced by di-tert-butyl peroxide.
- Available oxygen must be ≤9 percent.
- For domestic shipments, OP5A is authorized.
- This material may be transported in intermediate bulk containers and bulk packagings under the provisions of § 173.225(e).
- Only non-metallic packagings are authorized.
- For domestic shipments, this material may be transported in bulk packagings under the provisions of § 173.225(e)(3)(c)(iii).
- This material may be transported in intermediate bulk containers under the provisions of § 173.225(e).
- Up to 2000 kg per container authorized.
- Samples may only be offered for transportation when all available data indicate that the sample is no more dangerous than an Organic Peroxide type C, and the sample is packaged using packaging method OP2A for liquids or OP2B for solids, as appropriate, in quantities less than 10 kg per shipment, employing any necessary temperature controls.
- "Corrosive" subsidiary risk label is required.
- This material may be transported in bulk packagings under the provisions of § 173.225(e).
- No "Corrosive" subsidiary risk label is required for concentrations below 80%.
- With <6% di-tert-butyl peroxide.
- With ≤8% 1-isopropylhydroperoxy-4-isopropylhydroxybenzene.
- Addition of water to this organic peroxide will decrease its thermal stability.
- [Reserved]
- Mixtures with hydrogen peroxide, water and acid(s).

21. With diluent type A, with or without water.
 22. With >36 percent, by mass, ethylbenzene.
 23. With >19 percent, by mass, methyl isobutyl ketone.

(c) * * *

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

(e) * * *

(3) * * *

(ii) Specification 57 metal portable tanks are authorized only for tert-butyl cumyl peroxide, di-(2-tert-butylperoxyisopropyl)benzene(s), dicumyl peroxide and mixtures of two or more of these peroxides.

§ 173.226 [Amended]

74. In § 173.226(c)(1), in the entry for "Steel box", the wording "4A1 or 4A2" is removed and the wording "4A" is added in its place; and in the entry for "Aluminum box", the wording "4B1 and 4B2" is removed and the wording "4B" is added in its place.

§ 173.304 [Amended]

75. In § 173.304, in the paragraph (a)(2) table, for the entry "Carbon dioxide", in Column 3, "DOT-311800" is removed and replaced with "DOT-3T1800".

76. In § 173.306, a new paragraph (a)(4) is added and paragraph (a)(3)(v) is revised to read as follows:

§ 173.306 Limited quantities of compressed gases.

(a) * * *

(3) * * *

(v) Each container must be subjected to a test performed in a hot water bath; the temperature of the bath and the duration of the test must be such that the internal pressure reaches that which would be reached at 55°C (131°F) (50°C (122°F) if the liquid phase does not exceed 95% of the capacity of the container at 50°C (122°F)). If the contents are sensitive to heat or if the containers are made of plastic material which softens at this test temperature, the temperature of the bath must be set at between 20°C (68°F) and 30°C (86°F) but, in addition, one container in 2,000 must be tested at the higher

temperature. No leakage or permanent deformation of a container may occur, except that a plastic container may be deformed through softening provided that it does not leak.

* * * * *

(4) Gas samples must be transported under the following conditions:

(i) A gas sample may only be transported as non-pressurized gas when its pressure corresponding to ambient atmospheric pressure in the container is not more than 105 kPa absolute (15.22 psia).

(ii) Non-pressurized gases, toxic (or toxic and flammable) must be packed in hermetically sealed glass or metal inner packagings of not more than one L (0.3 gallons) overpacked in a strong outer packaging.

(iii) Non-pressurized gases, flammable must be packed in hermetically-sealed glass or metal inner packagings of not more than 2.5 L (0.5 gallons) overpacked in a strong outer packaging.

* * * * *

Appendix A to Part 173 [Removed and Reserved]

77. Appendix A to part 173 is removed and reserved.

78. In Appendix E to part 173, paragraph 2.b.(4) is redesignated as paragraph 2.b.(5) and a new paragraph 2.b.(4) is added to read as follows:

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

* * * * *

2. * * *

b. * * *

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

* * * * *

Appendix E to Part 173 [Amended]

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

Appendix F to Part 173 [Amended]

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

81. Appendix H is added to part 173 to read as follows:

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

1. Method

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

2. Principle of the method

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

3. Apparatus

A combustibility tester consisting of a block of aluminum alloy or other corrosion-resistant metal of high thermal conductivity is used. The block has a concave well and a pocket drilled to take a thermometer. A small gas jet assembly on a swivel is attached to the block. The handle and gas inlet for the gas jet may be fitted at any convenient angle to the gas jet. A suitable apparatus is shown in Figure 5.1 of the UN Recommendations, and the essential dimensions are given in Figures 5.1 and 5.2 of the UN Recommendations. The following equipment is needed:

(a) *Gauge*, for checking that the height of the center of the gas jet above the top of the test portion well is 2.2 mm (see Figure 5.1);

(b) *Thermometer*, mercury in glass, for horizontal operation, with a sensitivity not less than 1 mm/°C, or other measuring device of equivalent sensitivity permitting reading at 0.5°C intervals. When in position in the block, the thermometer bulb must be surrounded with thermally conducting thermoplastic compound;

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

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

(e) *Syringe*, capable of delivering 2 ml to an accuracy of ±0.1 ml; and

(f) *Fuel source*, butane test fuel.

4. Sampling

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

5. Procedure

Carry out the determination in triplicate.

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

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

(b) Place the metal block on the hotplate or heat the metal block by other suitable means so that its temperature, as indicated by the thermometer placed in the metal block, is maintained at the specified temperature within a tolerance of $\pm 1^\circ\text{C}$. The test temperature is 60.5°C or 75°C , (see (h)). Correct this temperature for the difference in barometric pressure from the standard atmospheric pressure (101.3 kPa) by raising the test temperature for a higher pressure or lowering the test temperature for a lower pressure by 1.0°C for each 4 kPa difference. Ensure that the top of the metal block is exactly horizontal. Use the gauge to check that the jet is 2.2 mm above the top of the well when in the test position.

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

(d) Using the syringe, take from the sample container at least 2 ml of the sample and rapidly transfer a test portion of 2 ml ± 0.1 ml to the well of the combustibility tester and immediately start the timing device.

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

(f) For each test observe and record:

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

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

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

(h) If sustained combustion interpreted in accordance with paragraph 6. of this appendix is not found at a test temperature of 60.5°C (141°F), repeat the complete procedure with new test portions, but at a test temperature of 75°C (167°F).

6. Interpretation of observations

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

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

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

Note to Paragraph 6. of this Appendix: Intermittent flashing may not be interpreted as sustained combustion. Normally, at the end of 15 s, the combustion has either clearly ceased or continues. In cases of doubt, the material must be deemed to sustain combustion.

§§ 173.201, 173.202, 173.203, 173.211, 173.212, 173.213 [Amended]

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

- Section 173.201(b) and (c)
- Section 173.202(b) and (c)
- Section 173.203(b) and (c)
- Section 173.211(b) and (c)
- Section 173.212(b) and (c)
- Section 173.213(b) and (c)

PART 175—CARRIAGE BY AIRCRAFT

83. The authority citation for part 175 continues to read as follows:

Authority: 49 U.S.C. 5101–5127; 49 CFR 1.53.

84. In § 175.10, paragraphs (a)(4) introductory text and (a)(13) are revised, paragraph (a)(17) is removed and reserved, and a new paragraph (a)(26) is added to read as follows:

§ 175.10 Exceptions

(a) * * *

(4) Non-radioactive medicinal and toilet articles (including aerosols) carried by a crew member or passenger in checked or carry-on baggage. Also aerosols in Division 2.2, with no subsidiary risk, for sporting or home use, when carried in checked baggage only, when:

* * * * *

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

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

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

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

* * * * *

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

§ 175.10 [Amended]

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

86. In § 175.33, a new sentence is added in paragraph (a)(1) introductory text after the first sentence to read as follows:

§ 175.33 Notification of pilot-in-command

(a) * * *

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

* * * * *

§ 175.33 [Amended]

87. In addition, in § 175.33, in paragraph (a)(6), the word "and" at the end of the sentence is removed; and in paragraph (a)(7), the period at the end of the sentence is removed and replaced with "; and".

PART 176—CARRIAGE BY VESSEL

88. The authority citation for part 176 continues to read as follows:

Authority: 49 U.S.C. 5101–5127; 49 CFR 1.53.

89. A new paragraph (c) is added in § 176.27 to read as follows:

§ 176.27 Certificate

* * * * *

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

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

(ii) When the freight container or transport unit contains packages, those

packages have been inspected prior to loading, are properly marked, labeled or placarded, as applicable; are not damaged; and are properly secured.

(2) The certification may appear on a shipping paper or on a separate document as a statement such as "It is declared that the packing of the container has been carried out in accordance with the provisions of 49 CFR 176.27(c)".

90. In § 176.76, a new paragraph (i) is added to read as follows:

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

* * * * *

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

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

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

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

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

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

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

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

PART 177—CARRIAGE BY PUBLIC HIGHWAY

91. The authority citation for part 177 continues to read as follows:

Authority: 49 U.S.C. 5101–5127; 49 CFR 1.53.

§ 177.841 [Amended]

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

PART 178—SPECIFICATIONS FOR PACKAGINGS

93. The authority citation for part 178 continues to read as follows:

Authority: 49 U.S.C. 5101–5127; 49 CFR 1.53.

94. In § 178.2, paragraph (a) is revised and paragraph (e) is added to read as follows:

§ 178.2 Applicability and responsibility.

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

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

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

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

* * * * *

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

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

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

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

§ 178.3 Marking of packagings.

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

* * * * *

(2) Unless otherwise specified in this part, with the name and address or symbol of the packaging manufacturer

or, where specifically authorized, the symbol of the approval agency certifying compliance with a UN standard. * * *

* * * * *

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

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

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

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

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

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

* * * * *

§ 178.502 [Amended]

96. In § 178.502, the following changes are made:

a. In the paragraph (a) introductory text, the word "types" is revised to read "kinds".

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

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

§ 178.503 Marking of packagings.

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

* * * * *

(9) For metal or plastic drums or jerricans intended for reuse or reconditioning as single packagings or the outer packagings of a composite packaging, the thickness of the packaging material, expressed in millimeters (rounded to the nearest 0.1 mm), as follows:

(i) Metal drums or jerricans must be marked with the nominal thickness of the metal used in the body. The marked nominal thickness must not exceed the minimum thickness of the steel used by more than the thickness tolerance stated in ISO Standard 3574. (See Appendix C of this part.) The unit of measure is not required to be marked. When the nominal thickness of either head of a metal drum is thinner than that of the

body, the nominal thickness of the top head, body, and bottom head must be marked (e.g., "1.0-1.2-1.0" or "0.9-1.0-1.0").

(ii) Plastic drums or jerricans must be marked with the minimum thickness of the packaging material. Minimum thicknesses of plastic must be as determined in accordance with § 173.28(b)(4). The unit of measure is not required to be marked;

(10) In addition to the markings prescribed in paragraphs (a)(1) through (a)(9) of this section, every new metal drum having a capacity greater than 100 L must bear the marks described in paragraphs (a)(1) through (a)(6), and (a)(9)(i) of this section, in a permanent form, on the bottom. The markings on the top head or side of these packagings need not be permanent, and need not include the thickness mark described in paragraph (a)(9) of this section. This marking indicates a drum's characteristics at the time it was manufactured, and the information in paragraphs (a)(1) through (a)(6) of this section that is marked on the top head or side must be the same as the information in paragraphs (a)(1) through (a)(6) of this section permanently marked by the original manufacturer on the bottom of the drum; and

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

* * * * *

(c) *Marking of reconditioned packagings.* (1) If a packaging is reconditioned, it shall be marked by the reconditioner near the marks required in paragraphs (a)(1) through (6) of this section with the following additional information:

(i) The name of the country in which the reconditioning was performed (in the United States, use the letters "USA");

(ii) The name and address or symbol of the reconditioner. Symbols, if used,

must be registered with the Associate Administrator for Hazardous Materials Safety;

(iii) The last two digits of the year of reconditioning;

(iv) The letter "R"; and

(v) For every packaging successfully passing a leakproofness test, the additional letter "L".

(2) When, after reconditioning, the markings required by paragraph (a)(1) through (a)(5) of this section no longer appear on the top head or the side of the metal drum, the reconditioner must apply them in a durable form followed by the markings in paragraph (c)(1) of this section. These markings may identify a different performance capability than that for which the original design type had been tested and marked, but may not identify a greater performance capability. The markings applied in accordance with this paragraph may be different from those which are permanently marked on the bottom of a drum in accordance with paragraph (a)(10) of this section.

(d) *Marking of remanufactured packagings.* For remanufactured metal drums, if there is no change to the packaging type and no replacement or removal of integral structural components, the required markings need not be permanent (e.g., embossed). Every other remanufactured drum must bear the marks required in paragraphs (a)(1) through (a)(6) of this section in a permanent form (e.g., embossed) on the top head or side. If the metal thickness marking required in paragraph (a)(9)(i) of this section does not appear on the bottom of the drum, or if it is no longer valid, the remanufacturer also must mark this information in permanent form.

(e) * * *

(3) * * *

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§ 178.503 [Amended]

98. In addition, in § 178.503, the reference “§ 178.503(a)(1) through (a)(10)” following the illustration in newly designated paragraph (e)(2) is revised to read “§ 178.503(a)(1) through (a)(9)”.

§ 178.508 [Amended]

99. In § 178.508, in paragraph (b)(2), the wording “plywood or plastic material” is revised to read “plywood, plastics, or other suitable material”.

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

§ 178.512 Standards for steel or aluminum boxes.

(a) * * *

- (1) 4A for a steel box; and
- (2) 4B for an aluminum box.

(b) * * *

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

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

§ 178.513 Standards for boxes of natural wood.

(b) * * *

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

§ 178.516 [Amended]

102. In § 178.516, the following changes are made:

a. In paragraph (b)(1), at the end of the second sentence, the wording “ISO International Standard 535-1976(E)” is revised to read “ISO International Standard 535”.

b. In paragraph (b)(2), at the end of the first sentence, the wording “of wood.” is revised to read “of wood or other suitable material.”; and in the second sentence the wording “or other suitable

material” is added immediately following the word “battens”.

c. Paragraphs (b)(4) and (b)(5) are redesignated as paragraphs (b)(5) and (b)(6), and paragraph (b)(3)(iii) is redesignated as paragraph (b)(4).

§ 178.521 [Amended]

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

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

§ 178.522 Standards for composite packagings with inner plastic receptacles.

(a) * * *

- (10) 6HH1 for a plastic receptacle within a protective plastic drum; and
- (11) 6HH2 for a plastic receptacle within a protective plastic box.

(b) * * *

(3) * * *

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

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

§ 178.522 [Amended]

105. In addition, in § 178.522, the following changes are made:

a. In paragraph (a)(9), the word “and” at the end of the paragraph is removed.

b. In paragraph (b)(4), the wording “6HH” is revised to read “6HH1”; and the wording “, 6HH2” is added immediately following “6HG2”.

c. In paragraph (b)(5), the wording “6HH” is revised to read “6HH1”, and the wording “, 6HH2” is added immediately following “6HG2”.

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

§ 178.601 General requirements.

* * * * *

(b) *Responsibility.* It is the responsibility of the packaging manufacturer to assure that each package is capable of passing the prescribed tests. To the extent that a package assembly function, including final closure, is performed by the person who offers a hazardous material for

transportation, that person is responsible for performing the function in accordance with §§ 173.22 and 178.2 of this subchapter.

(g) * * *

(2) * * *

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

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

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

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

- (1) Name and address of test facility;
- (2) Name and address of applicant (where appropriate);
- (3) A unique test report identification;
- (4) Date of the test report;
- (5) Manufacturer of the packaging;
- (6) Description of the packaging design type (e.g. dimensions, materials, closures, thickness, etc.), including methods of manufacture (e.g. blow molding) and which may include drawing(s) and/or photograph(s);
- (7) Maximum capacity;

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

(9) Test descriptions and results; and
 (10) Signed with the name and title of signatory.

§ 178.601 [Amended]

107. In addition, in § 178.601, the following changes are made:

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

b. In paragraph (g)(5)(i), the reference "§ 178.602" is revised to read "§ 178.603".

c. In paragraph (g)(5)(ii), the reference "§ 178.603" is revised to read "§ 178.604".

§ 178.602 [Amended]

108. In § 178.602, in the second sentence of paragraph (c), the reference "§ 178.603(d)(2)" is revised to read "§ 178.603(e)".

109. In § 178.603, in paragraph (a) introductory text, a sentence is added following the second sentence, the first sentence in paragraph (c) is revised, and paragraph (f)(1) is revised to read as follows:

§ 178.603 Drop test.

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

* * * * *

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

* * * * *

(f) * * *

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

* * * * *

§ 178.604 [Amended]

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

§ 178.606 [Amended]

111. In § 178.606, in paragraph (c)(1), at the end of the first sentence, the period is removed and replaced with a semicolon and the phrase "where the

contents of the test sample are non-hazardous liquids with specific gravities different from that of the liquid to be transported, the force must be calculated based on the specific gravity that will be marked on the packaging" is added immediately following the semicolon.

112. Appendix C is added to Part 178 to read as follows:

Appendix C to Part 178—Nominal and Minimum Thicknesses of Steel Drums and Jerricans

For each listed packaging capacity, the following table compares the ISO Standard 3574 nominal thickness with the corresponding ISO Standard 3574 minimum thickness.

Maximum capacity (L)	ISO nominal (mm)	Corresponding ISO minimum (mm)
20	0.7	0.63
30	0.8	0.73
40	0.8	0.73
60	1.0	0.92
120	1.0	0.92
220	1.0	0.92
450	1.9	1.77

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Ana Sol Gutiérrez,

Deputy Administrator, Research and Special Programs Administration.

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